PCG-GR250/GR250K/GR250P/GR270/GR270K/GR270P/GR290/GR290K/
PCG-GR290P/GR370/GR370K/GR370P/GR390/GR390K/GR390P

SERVICE MANUAL
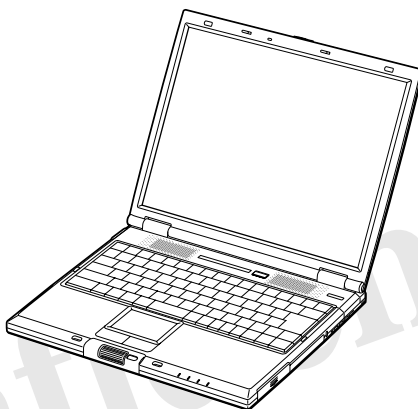
For American Area
US Model
Canadian Model

Ver 6-2002J

Revision History

Lineup : PCG-GR250
PCG-GR250K
PCG-GR250P
PCG-GR270
PCG-GR270K
PCG-GR270P
PCG-GR290
PCG-GR290K
PCG-GR290P
PCG-GR370
PCG-GR370K
PCG-GR370P
PCG-GR390
PCG-GR390K
PCG-GR390P

Illust : PCG-GR250

MG ™

ⁱ S400

VAIO

NOTEBOOK COMPUTER

SONY®

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<u>Caution Markings for Lithium/Ion Battery</u> - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

CAUTION: The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate.
Dispose of used battery promptly.
Keep away from children.

CAUTION: Changing the back up battery.
• Overcharging, short circuiting, reverse charging, multilation or incineration of the cells must be avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
• If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection.

✣✣✣
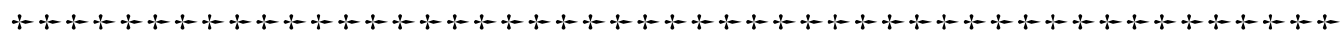
Service and Inspection Precautions

1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the ⚠ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

6. When handling flexible print boards...

• The temperature of the soldering-iron tip should be about 270C.
• Do not apply the tip more than three times to the same pattern.
• Handle patterns with care; never apply force.

> Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

**ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!**
LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.
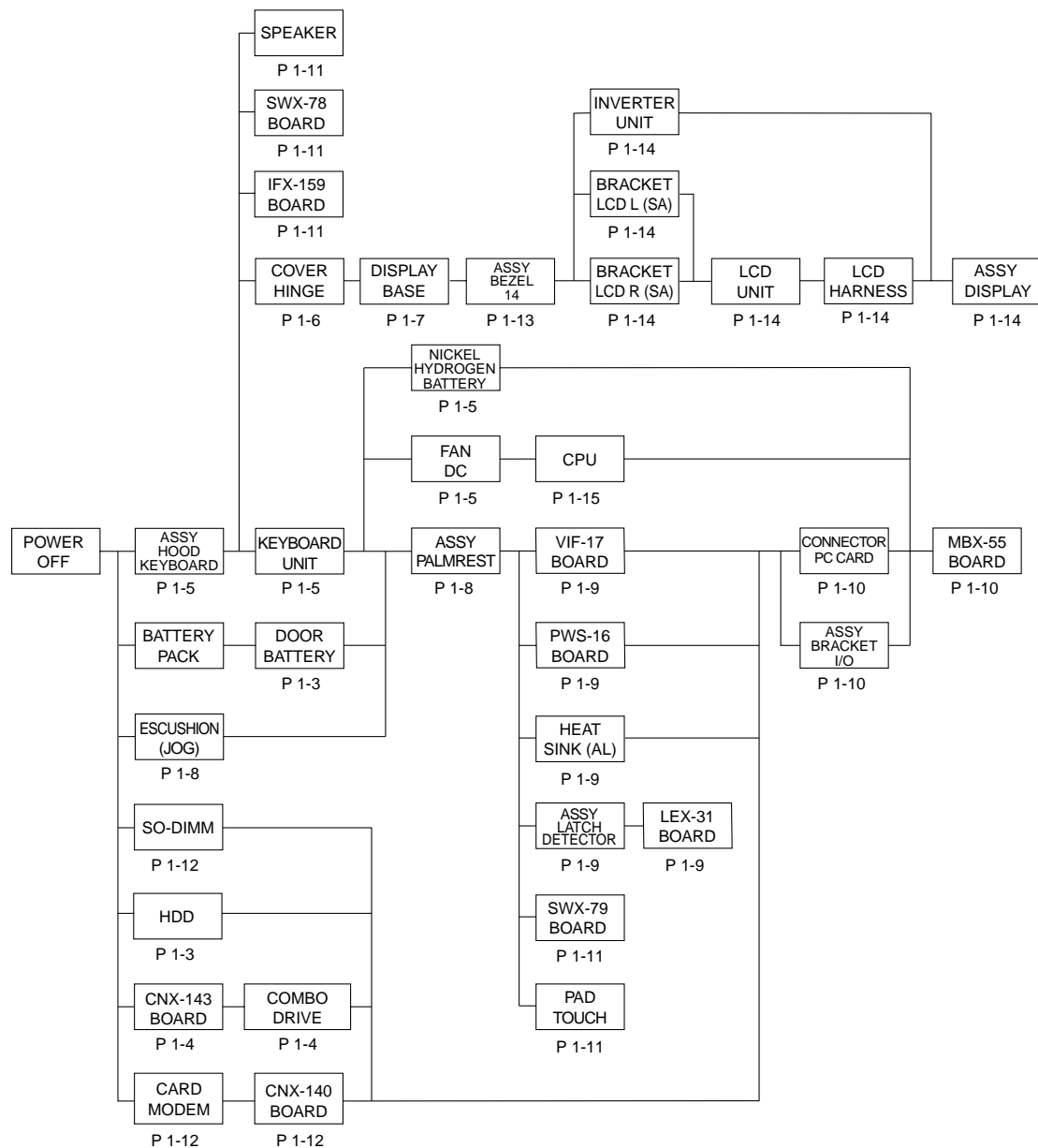
TABLE OF CONTENTS

History of the changes is shown as the "Revision History" at the end of this data.

Confidential

1-1. Flowchart

```
                    ┌──────────┐
                    │ SPEAKER  │
                    └──────────┘
                    P 1-11
                    ┌──────────┐              ┌──────────┐
                    │ SWX-78   │              │ INVERTER │
                    │ BOARD    │              │ UNIT     │
                    └──────────┘              └──────────┘
                    P 1-11                    P 1-14
                    ┌──────────┐              ┌──────────┐
                    │ IFX-159  │              │ BRACKET  │
                    │ BOARD    │              │ LCD L (SA)│
                    └──────────┘              └──────────┘
                    P 1-11                    P 1-14
    ┌────────┐ ┌────────┐ ┌────────┐ ┌────────┐ ┌────────┐ ┌────────┐ ┌────────┐
    │ COVER  │ │DISPLAY │ │ ASSY   │ │BRACKET │ │ LCD    │ │ LCD    │ │ ASSY   │
    │ HINGE  │ │ BASE   │ │ BEZEL  │ │LCD R(SA)│ │ UNIT   │ │HARNESS │ │DISPLAY │
    └────────┘ └────────┘ │  14    │ └────────┘ └────────┘ └────────┘ └────────┘
    P 1-6      P 1-7      P 1-13     P 1-14     P 1-14     P 1-14     P 1-14
```

- NICKEL HYDROGEN BATTERY — P 1-5
- FAN DC — P 1-5 → CPU — P 1-15
- POWER OFF
- ASSY HOOD KEYBOARD — P 1-5
- KEYBOARD UNIT — P 1-5
- ASSY PALMREST — P 1-8
- VIF-17 BOARD — P 1-9
- CONNECTOR PC CARD — P 1-10
- MBX-55 BOARD — P 1-10
- BATTERY PACK
- DOOR BATTERY — P 1-3
- PWS-16 BOARD — P 1-9
- ASSY BRACKET I/O — P 1-10
- ESCUSHION (JOG) — P 1-8
- HEAT SINK (AL) — P 1-9
- SO-DIMM — P 1-12
- ASSY LATCH DETECTOR — P 1-9 → LEX-31 BOARD — P 1-9
- HDD — P 1-3
- SWX-79 BOARD — P 1-11
- CNX-143 BOARD — P 1-4 → COMBO DRIVE — P 1-4
- PAD TOUCH — P 1-11
- CARD MODEM — P 1-12 → CNX-140 BOARD — P 1-12

- P XX means pages that appears in this manual.
- Remember that hard disk drives are easily damaged by vibration. Always handle with care.

1-2. Main Electrical Parts Location Diagram

SWX-78 Board
IFX-159 Board
CNX-140 Board
Modem Card
VIF-17 Board
MBX-55 Board
SWX-79 Board
LEX-31 Board
Inverter Unit
CPU
PWS-16 Board
SO-DIMM

Speaker
PC Card Connector
COMBO Drive
LCD Unit
Speaker (2.8 cm)
Fan DC, (With Heat Sink)
Heat Sink (AL)
HDD
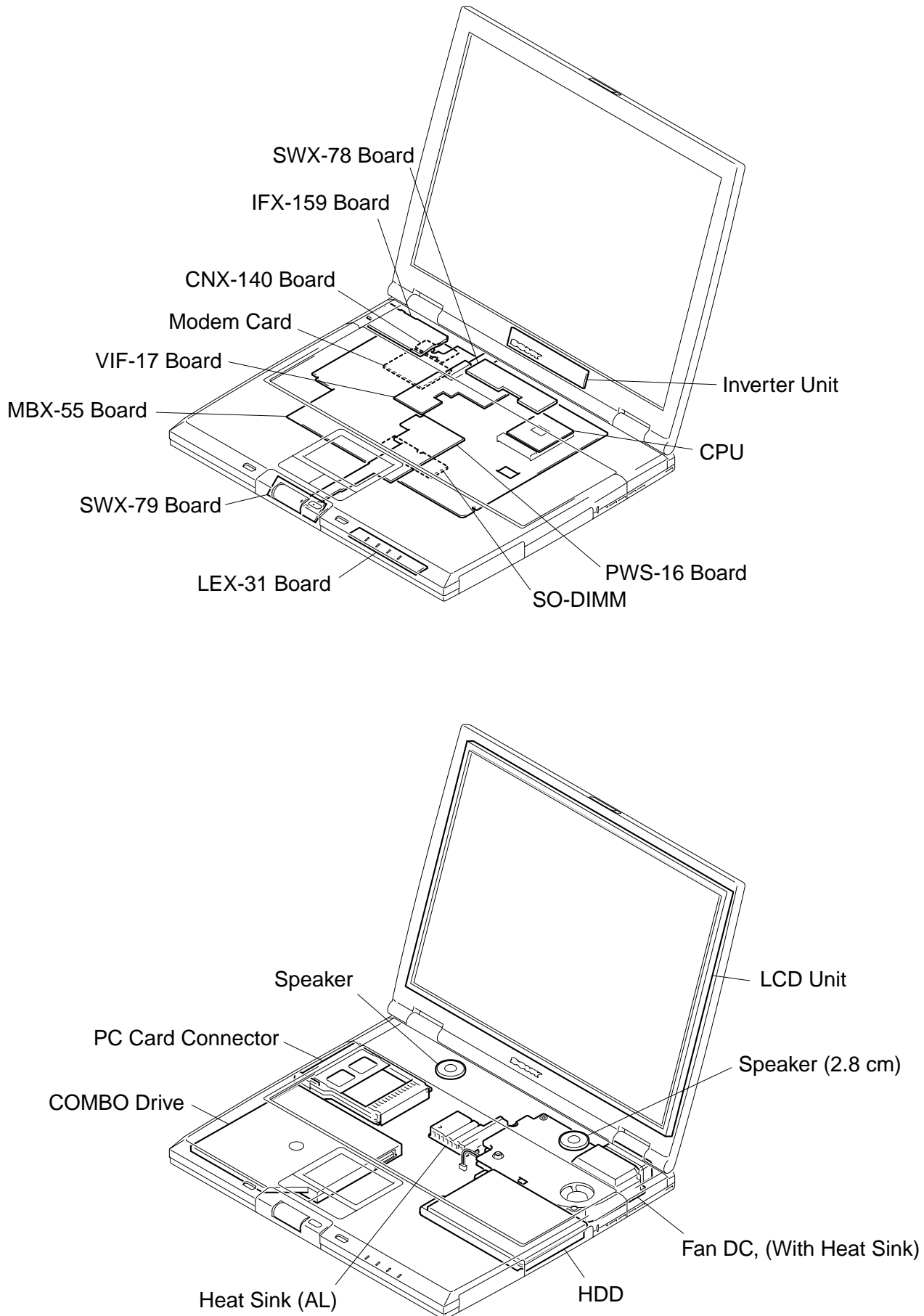
1-3. Removal

1. HDD, Door Battery

⑥ HDD 20GB

④ Screw M3X4 (X2) (Gold)

Sheet HDD

⑤ HDD Bracket

③ Screw M3X4 (X2) (Gold)

① Two Claws

② Door HDD

④

①

② Door Battery

⑤ Assy HDD

③ Screw M3 (Black)
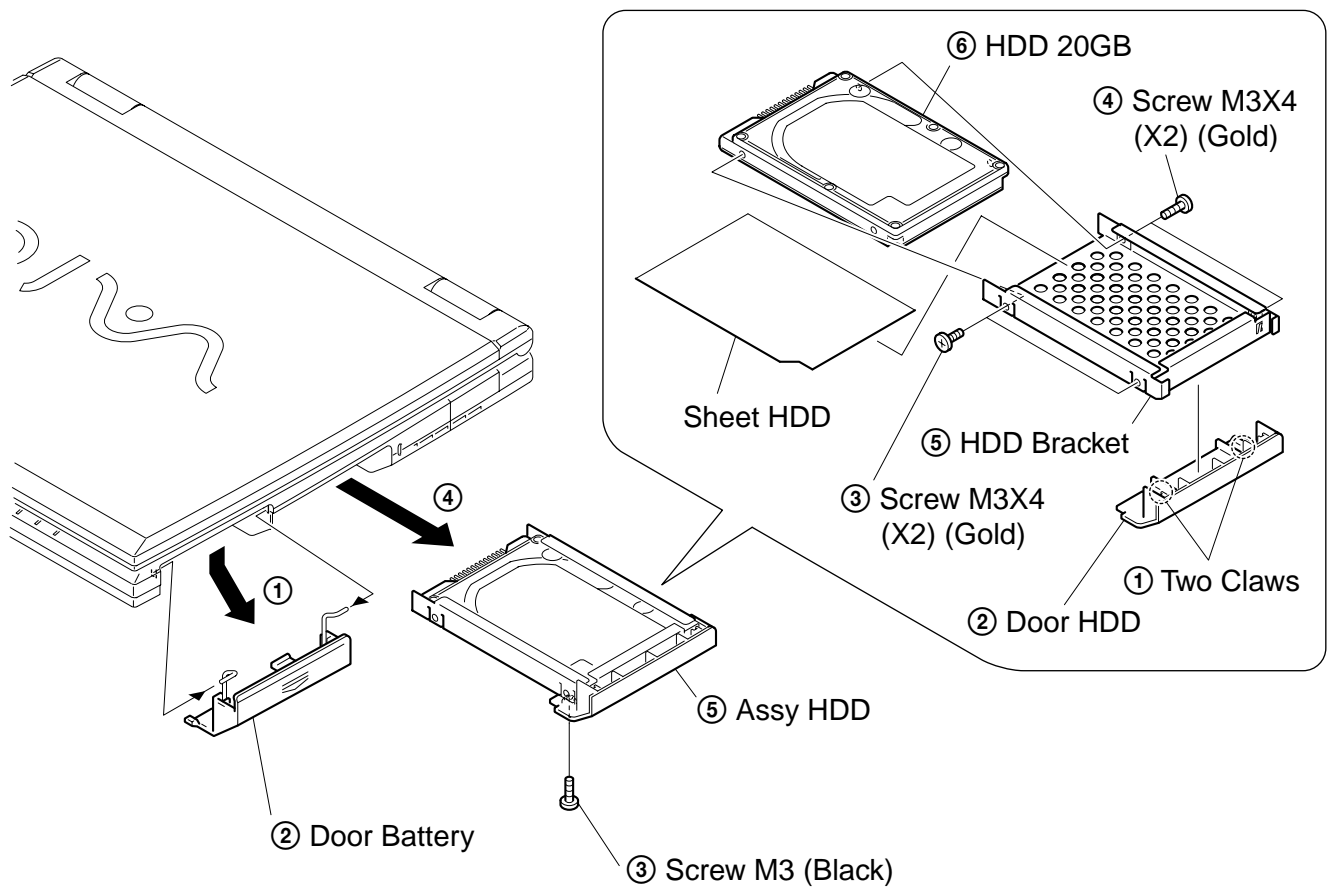
2. COMBO Drive, CNX-143 Board

③ Assy DVD-RW

① [slider diagram]

②

⑧ Screw (M1.7X3.5) (X2) (Black)

⑦ Screw (M1.7X3.5) (Black)

CN7501

Sheet Bay Board

⑥ CNX-143 Board

② Screw M2 (X2) (Silver)

⑨ Assy CD Bay Bezel KME

④

⑩ COMBO Drive

⑤ Bay Case

① Screw (M2), Special Head (X2) (Black)

③ Screw M2 (X2) (Silver)
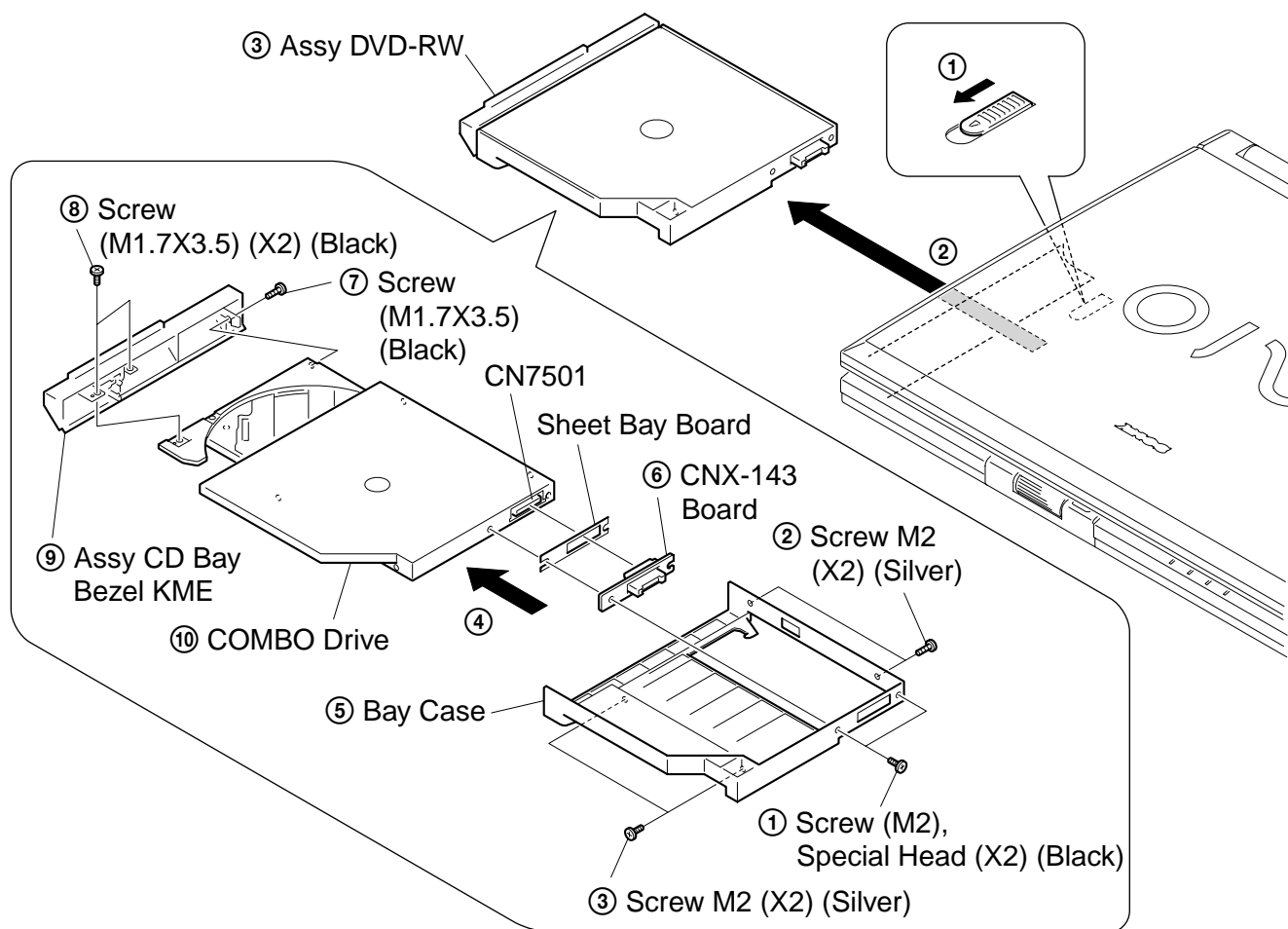
Note : If the DVD-RW Assy cannot be removed, there is a case that the portion (A) on the rear of the main unit is secured by screw. Remove the screw blind seal (Cap Bay) and check it.
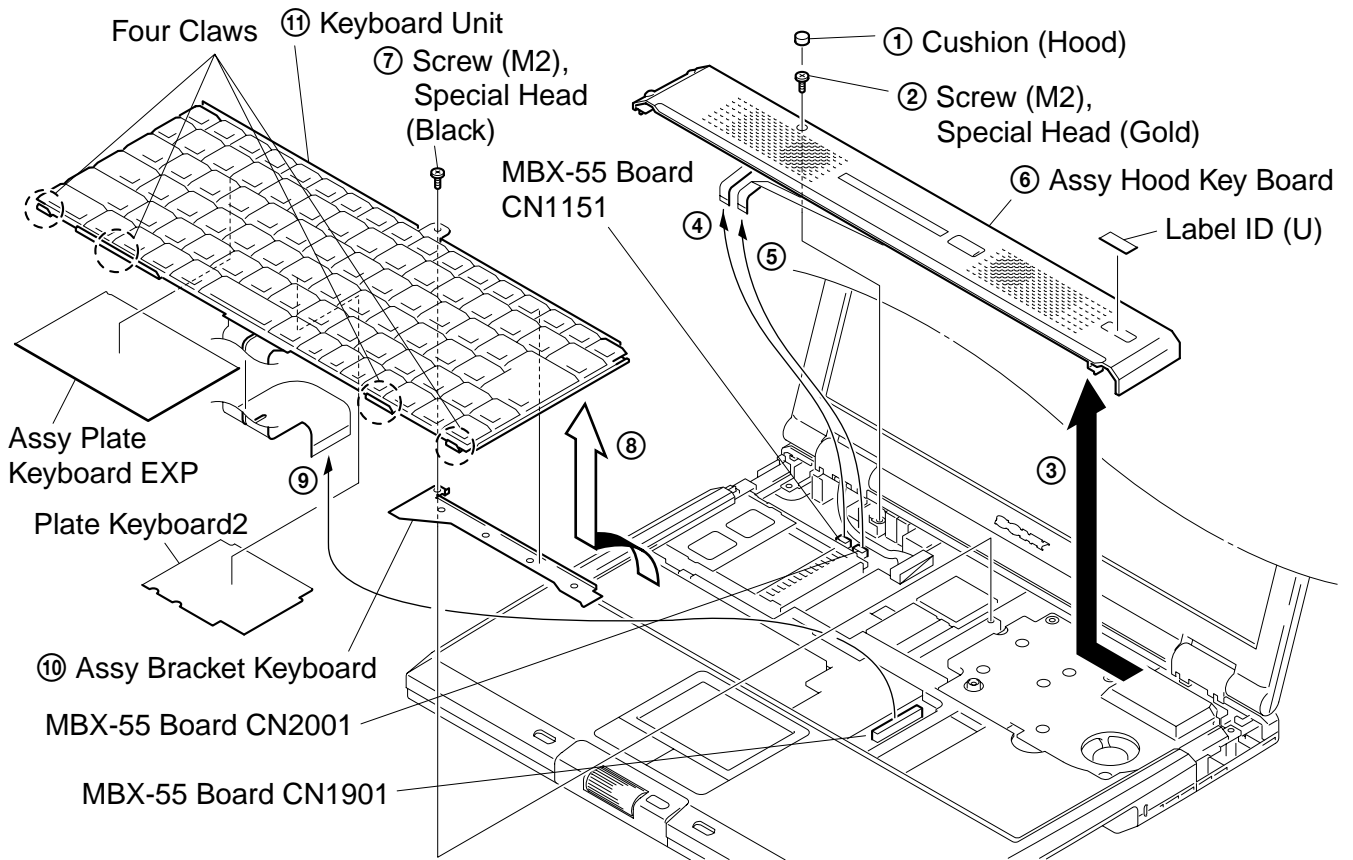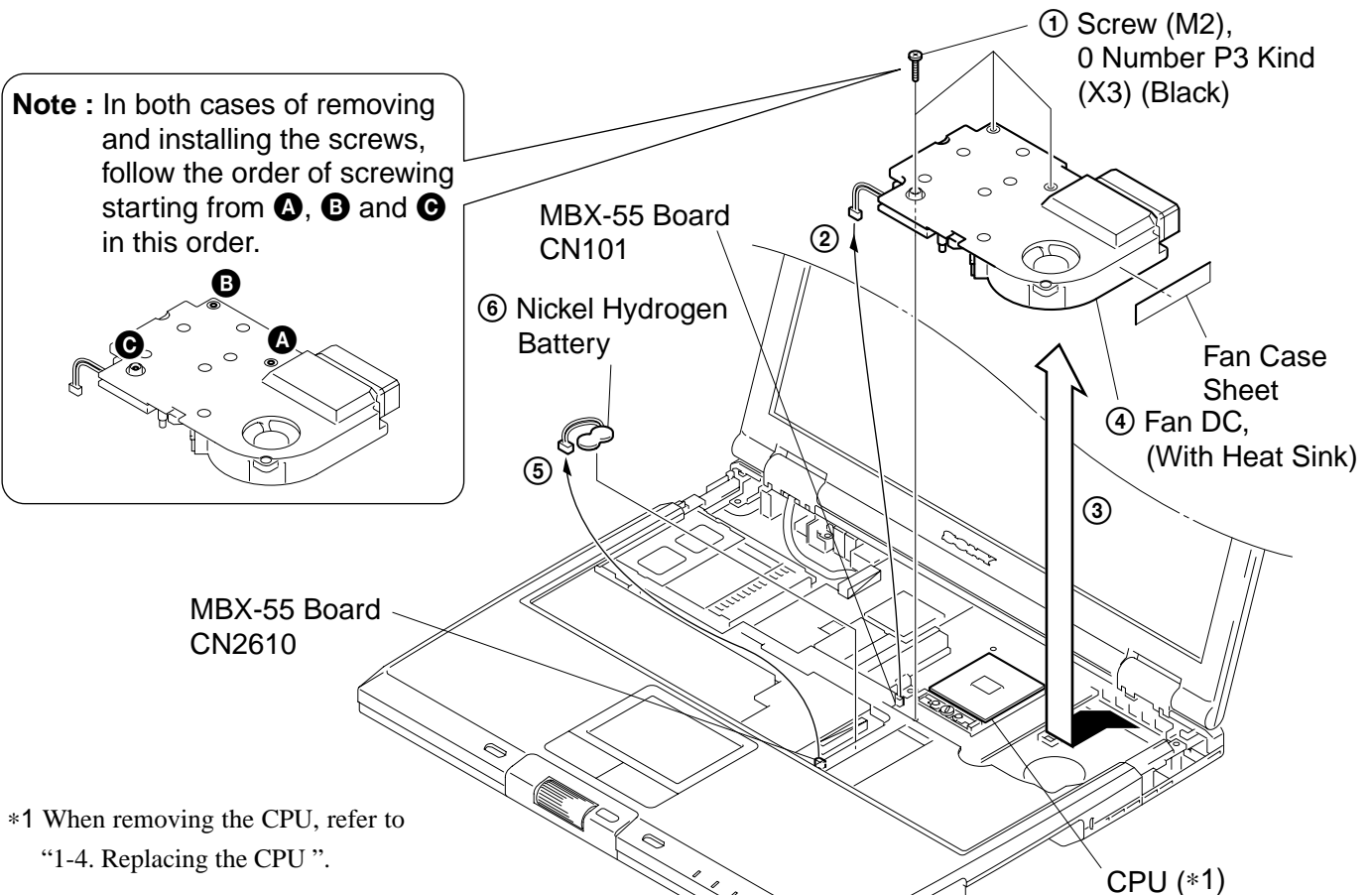
Cap Bay

Ⓐ
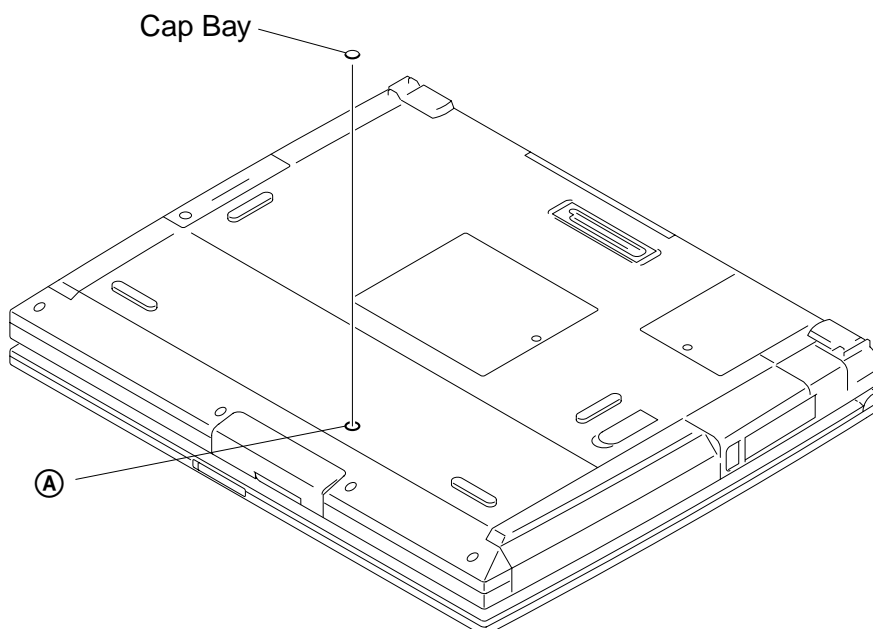
3. Assy Hood Key Board, Keyboard Unit

Four Claws

⑪ Keyboard Unit

⑦ Screw (M2),
Special Head
(Black)

① Cushion (Hood)

② Screw (M2),
Special Head (Gold)

MBX-55 Board
CN1151

⑥ Assy Hood Key Board

Label ID (U)

④

⑤

③

⑧

Assy Plate
Keyboard EXP

⑨

Plate Keyboard2

⑩ Assy Bracket Keyboard

MBX-55 Board CN2001

MBX-55 Board CN1901

4. Fan DC, Nickel Hydrogen Battery

Note : In both cases of removing
and installing the screws,
follow the order of screwing
starting from **Ⓐ**, **Ⓑ** and **Ⓒ**
in this order.

Ⓑ

Ⓒ **Ⓐ**

① Screw (M2),
0 Number P3 Kind
(X3) (Black)

MBX-55 Board
CN101

②

⑥ Nickel Hydrogen
Battery

⑤

Fan Case
Sheet

④ Fan DC,
(With Heat Sink)

③

MBX-55 Board
CN2610

∗1 When removing the CPU, refer to
"1-4. Replacing the CPU ".

CPU (∗1)

Confidential

5. Cover Hinge

Cover Hinge

Two Claws

② Two Claws

① Two Claws

④ Two Cover Hinges

◎ : claw part

Cover Hinge

Two Claws

③

Two Claws

Two Claws

6. Display Base

⑤ Five Claws

② Screw (M2),
Special Head (X4) (Gold)

VIF-17 Board CN9321

⑥

③

④ Claw

① Screw M3 (X2) (Black)

⑨ Display Base

⑧

⑦

Assy Display (EXP)

7. Escushion (Jog)

Four Claws

② ①
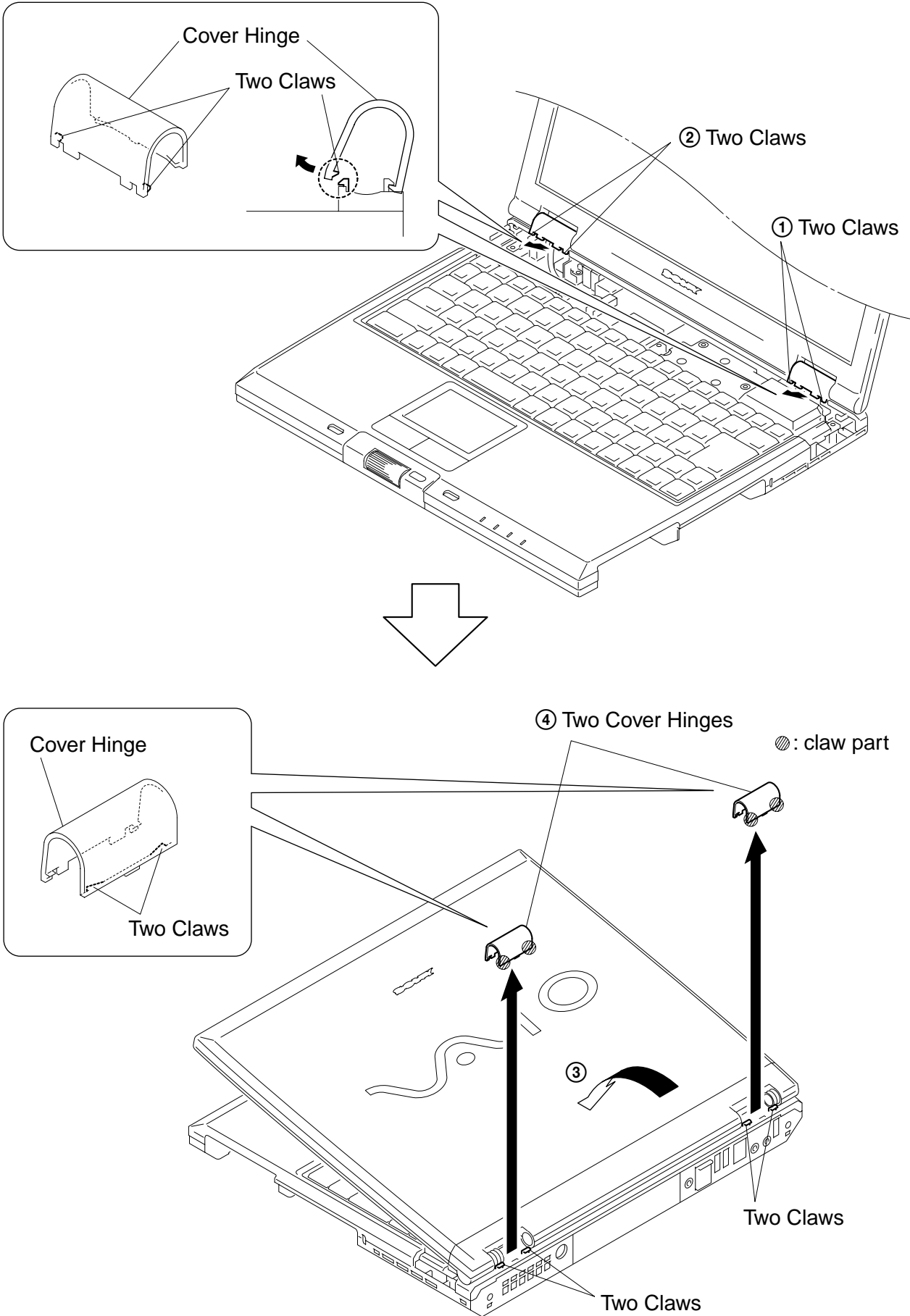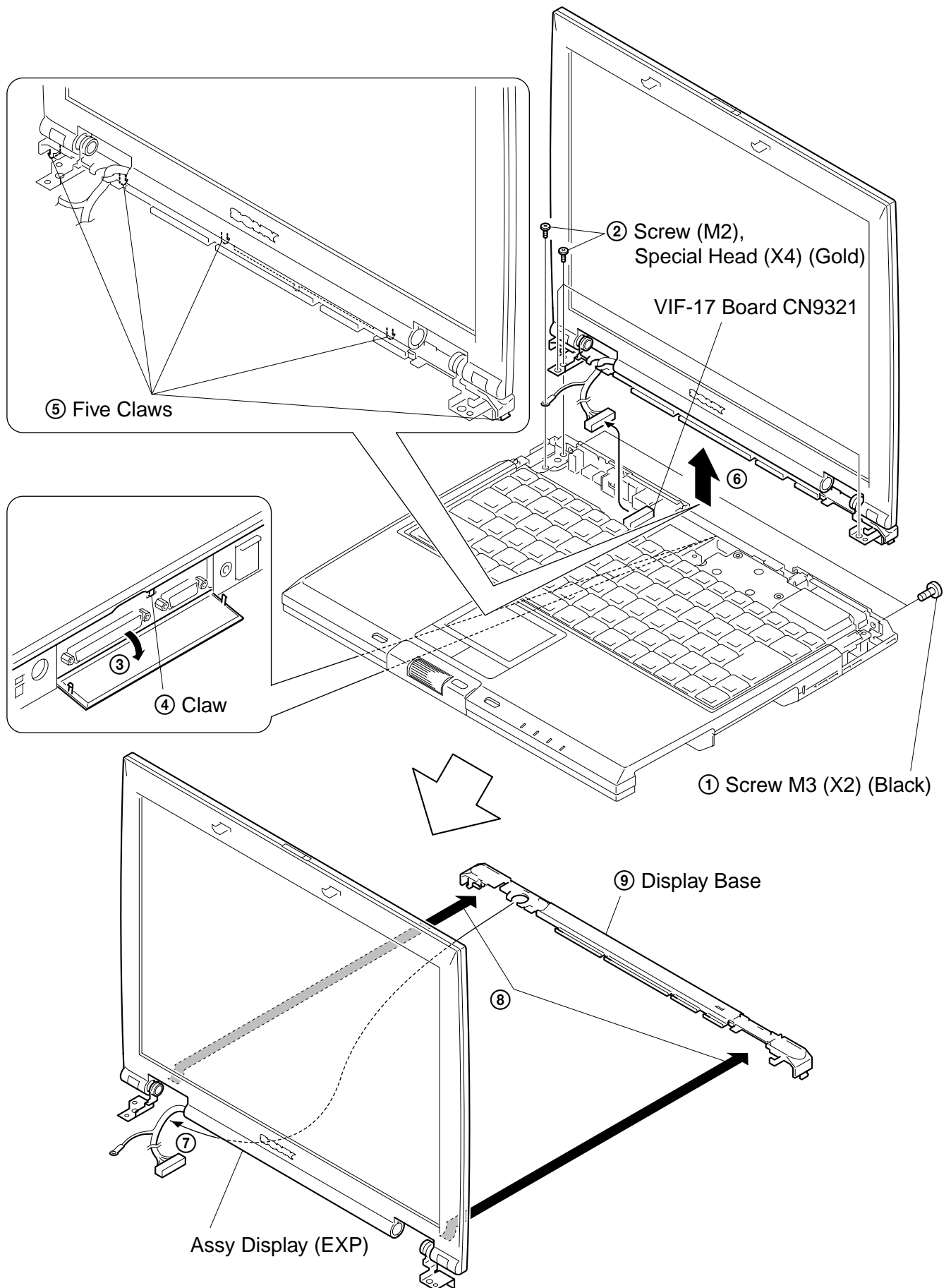
③ Escushion (Jog)
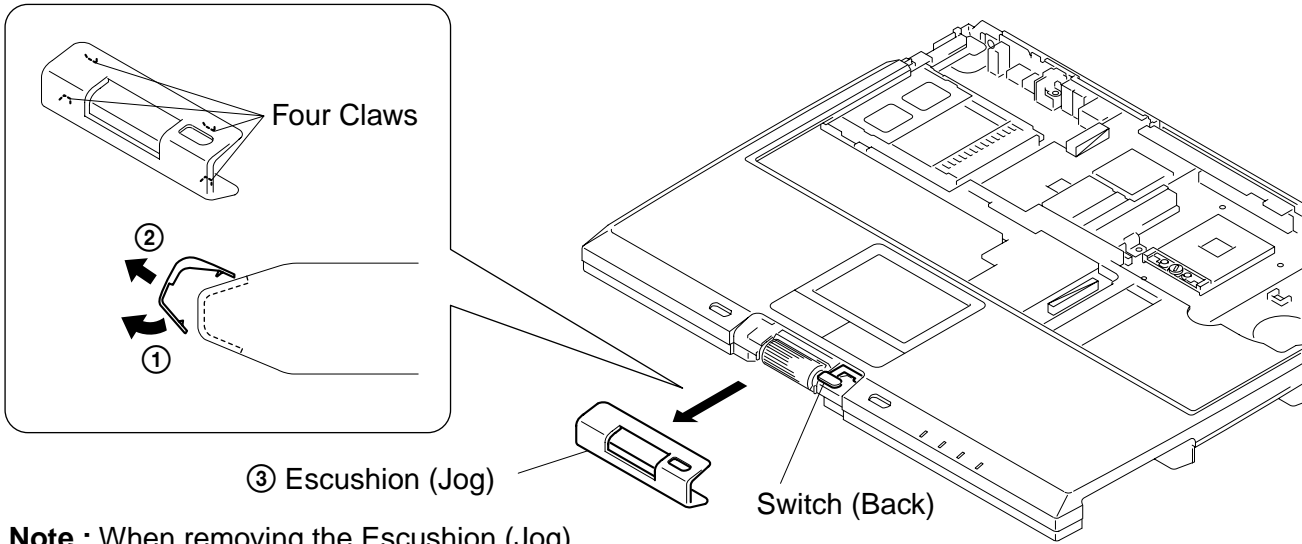
Switch (Back)

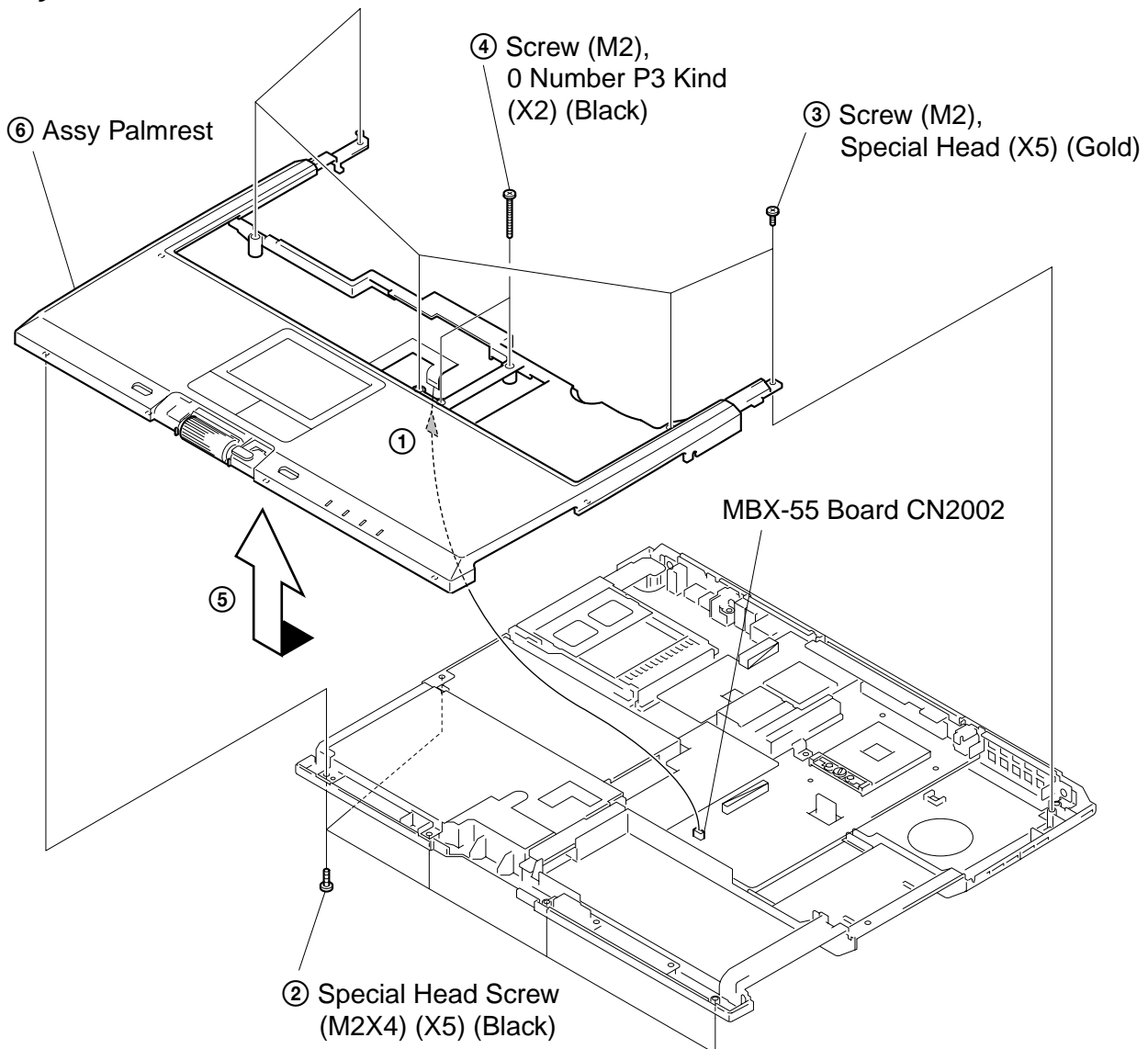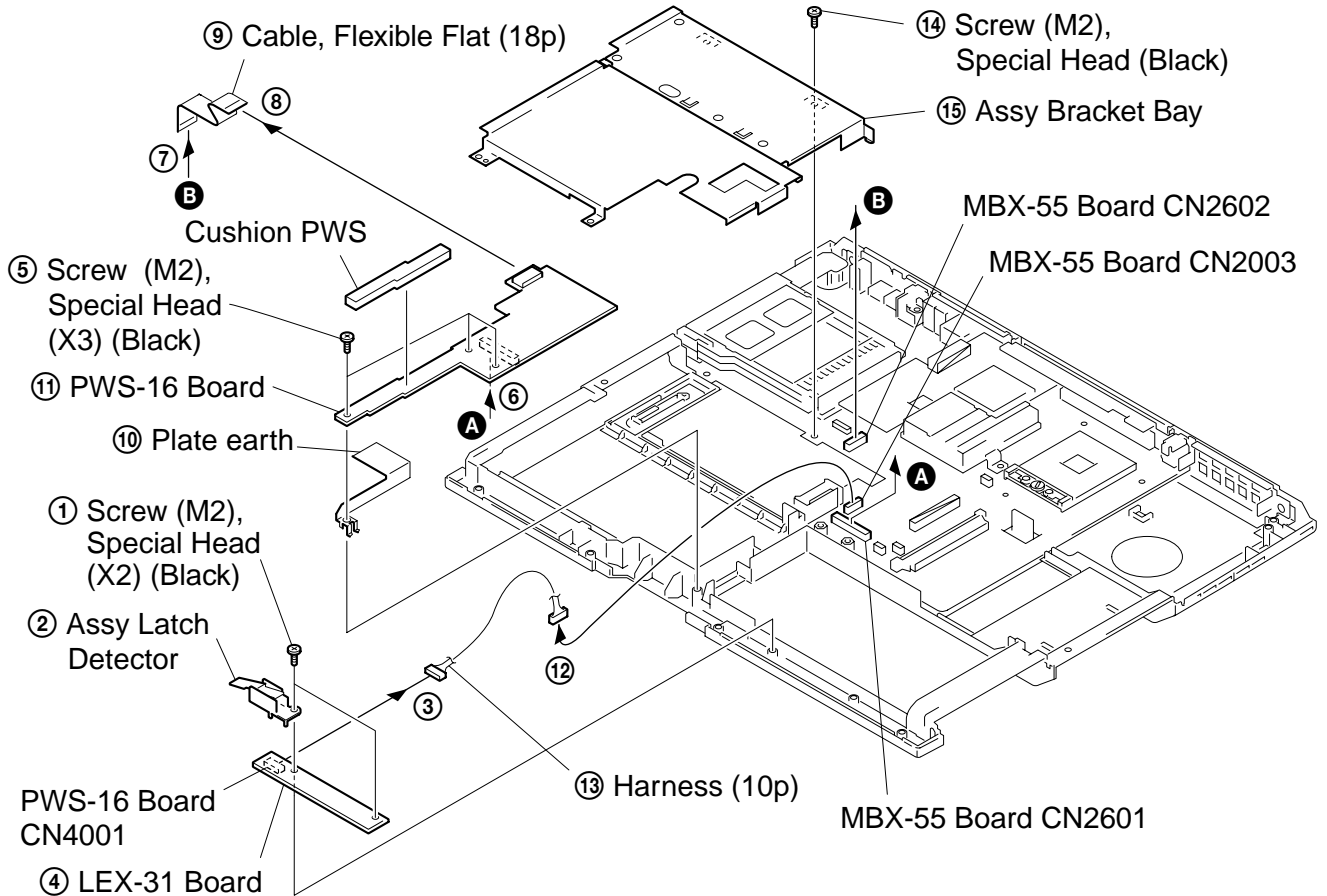**Note :** When removing the Escushion (Jog),
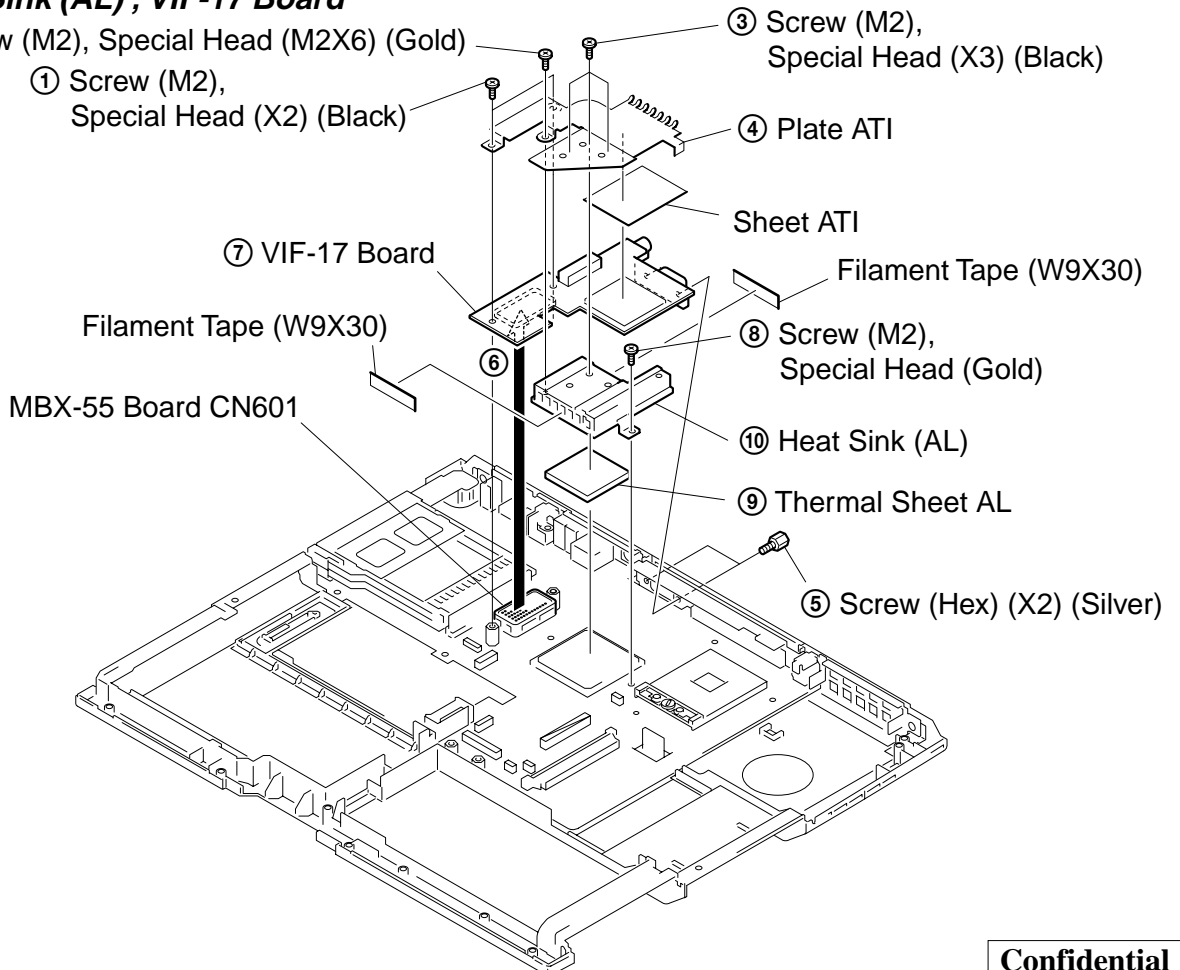be careful not to damage the Switch (Back).

8. Assy Palmrest

⑥ Assy Palmrest

④ Screw (M2),
0 Number P3 Kind
(X2) (Black)

③ Screw (M2),
Special Head (X5) (Gold)

①

⑤

MBX-55 Board CN2002

② Special Head Screw
(M2X4) (X5) (Black)

9. Assy Latch Detector, LEX-31 Board, PWS-16 Board

⑨ Cable, Flexible Flat (18p)

⑧

⑦

Ⓑ

Cushion PWS

⑤ Screw (M2), Special Head (X3) (Black)

⑪ PWS-16 Board

⑩ Plate earth

① Screw (M2), Special Head (X2) (Black)

② Assy Latch Detector

Ⓐ

⑥

⑭ Screw (M2), Special Head (Black)

⑮ Assy Bracket Bay

Ⓑ

MBX-55 Board CN2602

MBX-55 Board CN2003

Ⓐ

③

⑫

PWS-16 Board CN4001

④ LEX-31 Board

⑬ Harness (10p)

MBX-55 Board CN2601

10. Heat Sink (AL) , VIF-17 Board

② Screw (M2), Special Head (M2X6) (Gold)

① Screw (M2), Special Head (X2) (Black)

③ Screw (M2), Special Head (X3) (Black)

④ Plate ATI

Sheet ATI

⑦ VIF-17 Board

Filament Tape (W9X30)

Filament Tape (W9X30)

⑥

⑧ Screw (M2), Special Head (Gold)

MBX-55 Board CN601

⑩ Heat Sink (AL)

⑨ Thermal Sheet AL

⑤ Screw (Hex) (X2) (Silver)

11. MBX-55 Assy

① Screw (M2), Special Head (Black)

② Bracket 1394

⑤ Spacer (PWS) (X2) (Silver)

③ Screw (M2), 0 Numbr P3 Kind (X2) (Black)

⑥ Screw (M2), Special Head (X2) (Black)

④ Screw (MBX) (Silver)

⑧ MBX-55 Assy

⑨ Cap Ethernet

⑦ Screw (M2), Special Head (Black)

12. Connector PC Card, MBX-55 Board, Assy Bracket IO

③ Connector, PC Card (Eject, Right)

⑦ Screw (M2), Special Head (X2) (Black)

⑨ Assy IO Bracket

Sheet PC Card

⑥ Screw (Hex) (X2) (Silver)

Sheet Drive

④ Screw (M2), Special Head (Black)

⑤ Plate (DC)

②

MBX-55 Board CN1202

⑧

⑩ MBX-55 Board

① Screw (M2), Special Head (X2) (Gold)

Drive2 Sheet
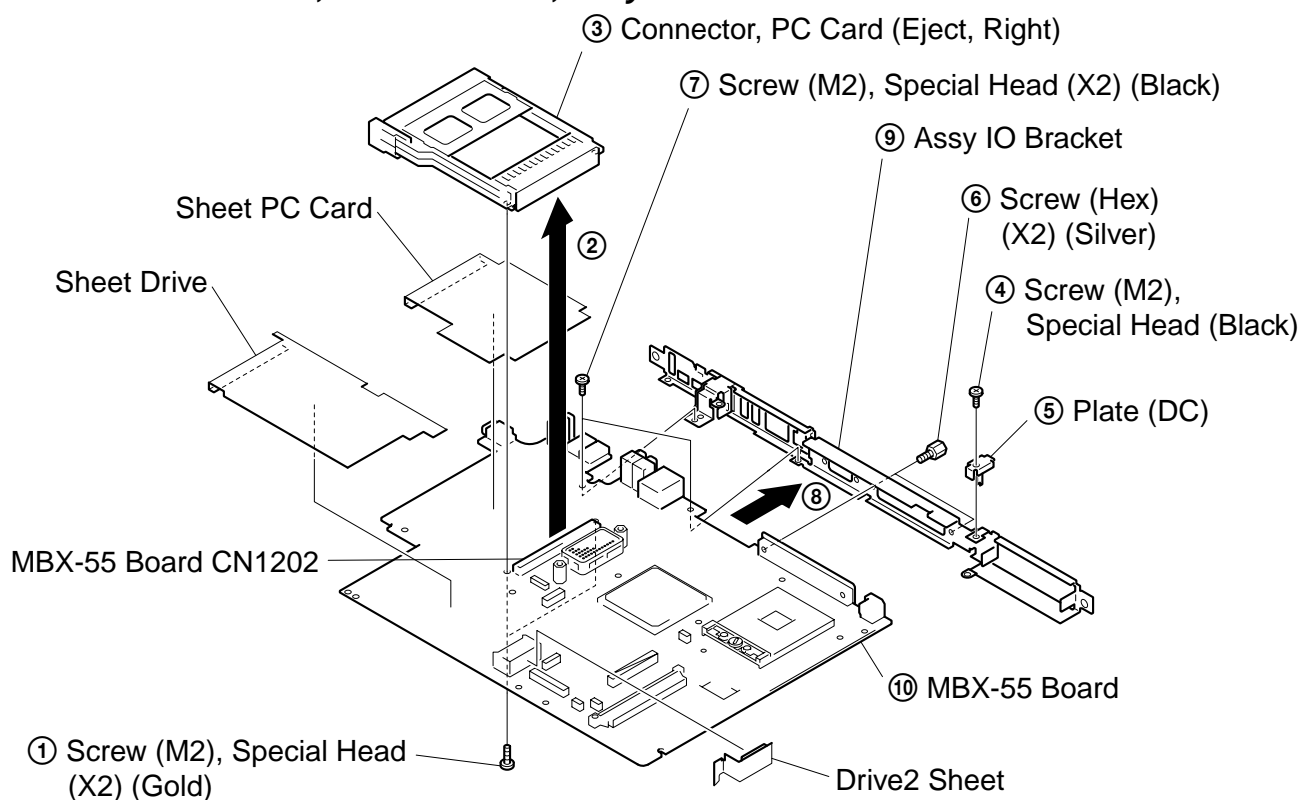
Confidential

13. SWX-79 Board, Pad Touch

Eight Claws

⑬ Escushion (TP)

⑮ Assy Palmrest

Ⓐ

① Claw

⑭ Pad, Touch

⑫ Plate (GND)

④

Ⓐ

⑪

⑦ PWB, Flexible

⑧ Screw (M2),
Special Head
(X2) (Black)

⑥

②

③ Button
Holder

⑩ SWX-79 Board

Jog Ring Sheet

⑨ Bracket
(Jog)

⑤ Screw (M2),
Special Head (X2) (Black)

Note : When assembling, insert the
portion of the Flexible PWB
that is shown in illustration,
in between the Switch (Back)
and the Palmrest Assy and
align the hole with protrusion

Switch (Back)   Protrusion

Hole

Assy Palmrest

Flexible
PWB

14. Speaker, SWX-78 Board, IFX-159 Board

Gasket (Speaker)

① Screw M2X4 (X2) (Black)

⑥ Speaker (2.8cm)

② Speaker Holder

⑧ Cable, Flexible Flat (12p)

Sheet Speaker Holder

Filament Tape
(W12X30)

③ Screw M2X4 (X2) (Black)

Shield Tape (Speaker)

⑦

④ Speaker Holder

⑫ Cable, Flexible Flat (8p)

⑨ Screw M2X4
(X3) (Black)

⑤

⑪

⑩ SWX-78 Board

IFX-159 Board CN4502

⑮ Assy Hood Keyboard

SWX-78 Board CN6001

⑬ Screw M2X4
(X2) (Black)

SWX-78 Board CN6002

⑭ IFX-159 Board

Filament Tape(W12X30)

Sheet (MS)

⑥ Speaker (2.8cm)

15. SO-DIMM

① Screw (M2),
Special Head (Black)

② Door DIMM M

Removal of SO-DIMM
ⓐ → ⓑ

Slot for the standard
memory (Compulsory).

16. Card Modem, CNX-140 Board

① Screw (M2)
Special Head (Black)

② Assy Modem Door

③ Screw M2 (X2) (Silver)

Modem Card J1

⑥ Card, Modem

⑦ Screw (M2),
Special Head (Black)

CNX-140 Board
CN5002

⑩ CNX-140 Board

⑨ Harness (2p)

MBX-55 Board CN1601

17. LCD Section – Made by HI –

1. Assy Bezel 14

③ Cover Screw Lower (X2)

④ Screw (M2),
Special Head (X2) (Gold)

① Cover Screw Upper (X2)

② Screw (M2),
Special Head (X2) (Black)

⃝ : claw part

ⓐ

ⓑ

ⓒ

⑤ Bezel 14 Assy

How to release the claw ⓒ

Assy Bezel 14

ⓒ

Assy Display

Pull the Bezel 14 Assy as shown
to release the claw ⓒ.

Order of releasing the claws   ⓑ → ⓐ → ⓒ
Order of locking the claws   ⓒ → ⓐ → ⓑ

⑥ Screw (M2),
Special Head (X2) (Black)

⑩ LCD Unit

⑦ Screw (M2),
Special Head (X2) (Black)

⑧

⑨

Filament Tape
(W19X50)

Shield Tape(SK)

Assy Display

Confidential

2. LCD Unit, Bracket LCD L (SA), Bracket LCD R (SA)

① +P M2X3 Lock (X2) (Gold)

② Bracket LCD L (SA)

⑤ LCD Unit

④ Bracket LCD R (SA)

③ +P M2X3 Lock (X2) (Gold)

3. Inverter Unit, LCD Harness, Assy Display

④ LCD Harness

② Inverter Unit

①

③ Screw (M2), Special Head (Black)

Assy Display

1-4. Replacing the CPU

1. Removing the CPU

① Insert a flat-blade screwdriver into the notch as shown in the illustration
and rotate it so that the protrusion comes to the lock release position.

② Pull the CPU gently upward to lift it out of the CPU socket.

Lock position

Lock release position

CPU
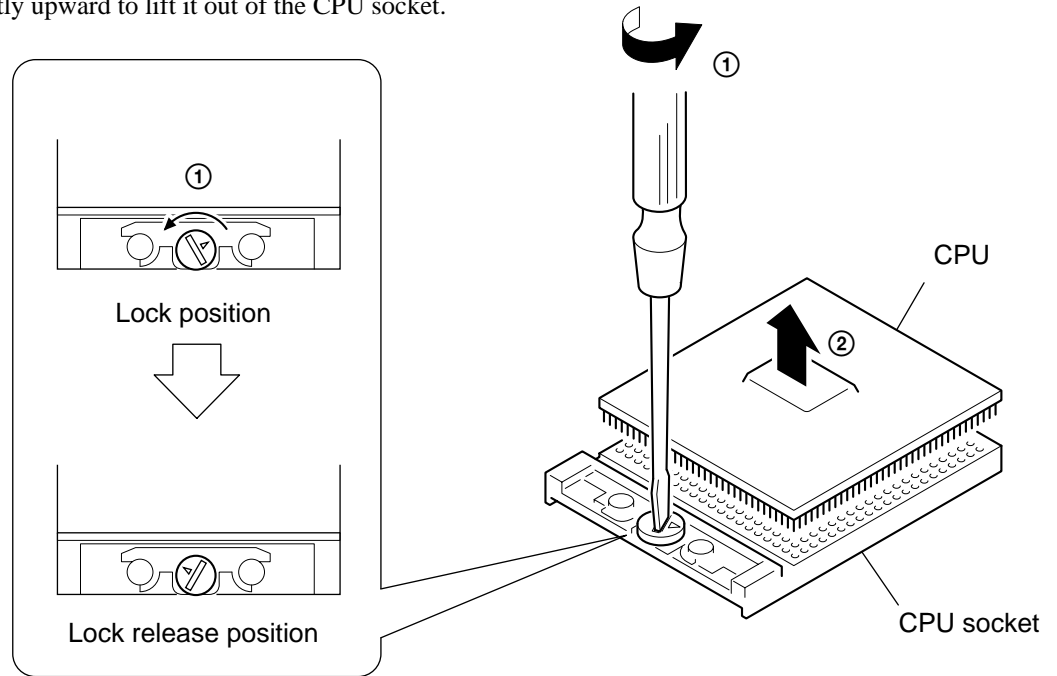
CPU socket

2. Installing the CPU

① Align the triangle reference mark of the CPU with that of the CPU socket and
insert all the pins of the CPU to the corresponding holes of the CPU socket.

② Insert a flat-blade screwdriver into the notch as shown in the illustration and
rotate it so that the protrusion comes to the lock position.

Lock release position

Lock position

Reference marks

CPU

CPU socket
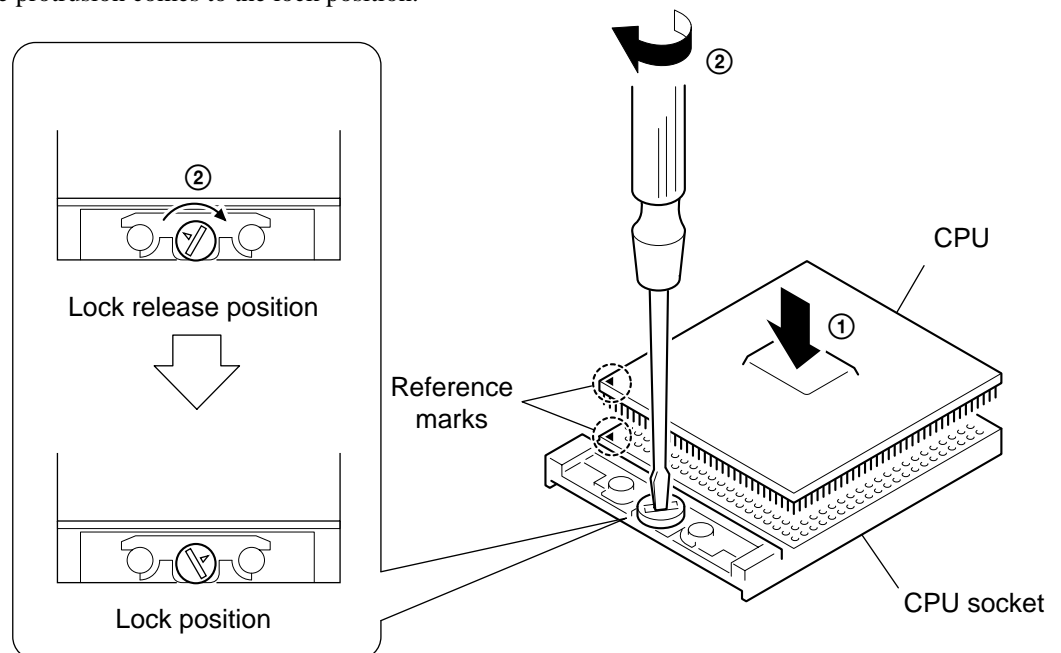
NOTE:

Rotate a flat-blade screwdriver to the lock position securely. If not, the operation of the CPU may become unstable.

1-5. DIP Switch Setting of the MBX-55 Board

Set the DIP switch on the MBX-55 board (main board) to match with the LCD that is used in this computer.

MODEL	Name of LCD	Part No.	DIP switch setting
GR250/GR250K/ GR250P	HI	A-8058-184-A	The upper position where ON indication is shown is the ON position . The lower position is the OFF position. | No.	1	2	3	4	5	6	7	8 | |---|---|---|---|---|---|---|---|---| | ON/OFF | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 : ON 1 : OFF
GR290/GR290K/ GR290P/GR390/ GR390K/GR390P	SH	A-8058-187-A	The upper position where ON indication is shown is the ON position . The lower position is the OFF position. | No.	1	2	3	4	5	6	7	8 | | ON/OFF | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 : ON 1 : OFF
GR270/GR270K/ GR270P/GR370/ GR370K/GR370P	LG	A-8058-188-A	The upper position where ON indication is shown is the ON position . The lower position is the OFF position. | No.	1	2	3	4	5	6	7	8 | | ON/OFF | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 : ON 1 : OFF
GR370/GR370K/ GR370P	NE	A-8059-572-A	The upper position where ON indication is shown is the ON position . The lower position is the OFF position. | No.	1	2	3	4	5	6	7	8 | | ON/OFF | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 : ON 1 : OFF

Confidential
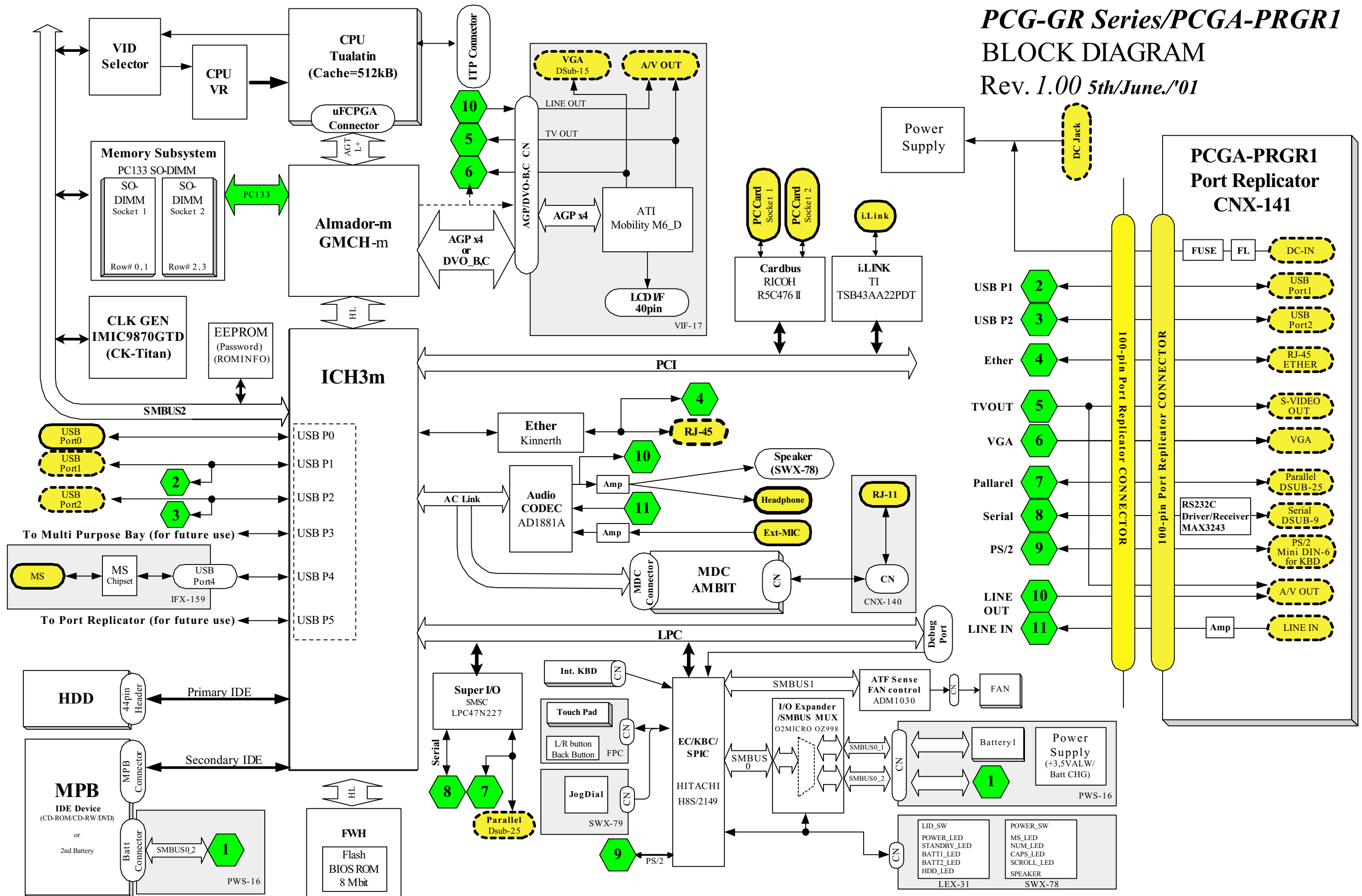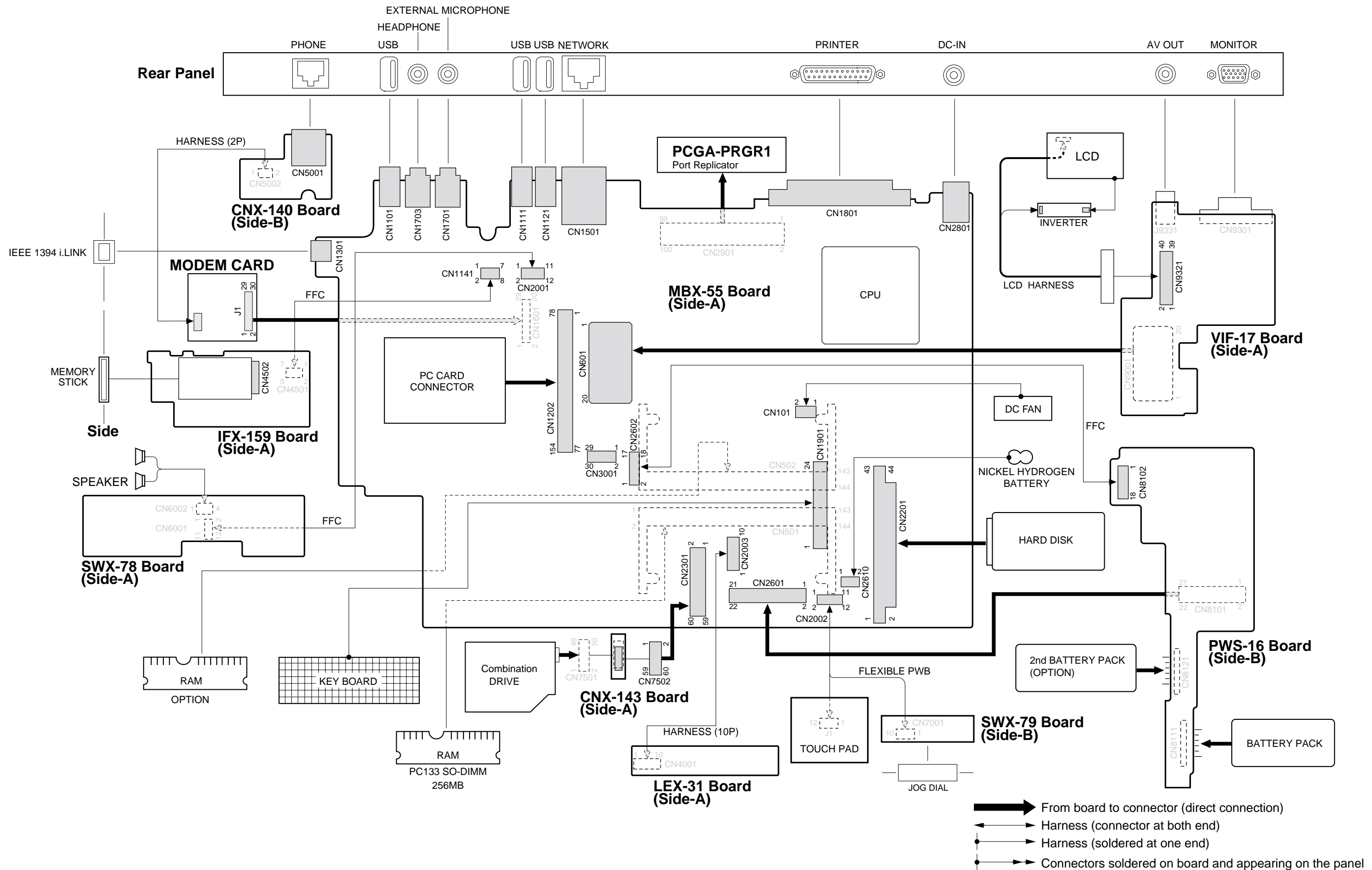

ATTENTION

Please confirm "Self Diagnostics" method which will be informed you with distribution of "Self Diagnostics" software.

PCG-GR Series/PCGA-PRGR1
BLOCK DIAGRAM
Rev. *1.00* *5th/June./'01*

VID Selector

CPU VR

CPU Tualatin (Cache=512kB)

uFCPGA Connector

AGT L+

ITP Connector

VGA DSub-15

A/V OUT

10

5

6

LINE OUT

TV OUT

AGP/DVO-B,C CN

AGP x4

ATI Mobility M6_D

LCD I/F 40pin

VIF-17

Power Supply

DC Jack

PCGA-PRGR1 Port Replicator CNX-141

Memory Subsystem
PC133 SO-DIMM

SO-DIMM Socket 1 / Row# 0, 1

SO-DIMM Socket 2 / Row# 2, 3

PC133

Almador-m GMCH-m

AGP x4 or DVO_B,C

PCCard Socket 1

PCCard Socket 2

i.Link

Cardbus RICOH R5C476 II

i.LINK TI TSB43AA22PDT

FUSE | FL

DC-IN

USB P1 | 2

USB P2 | 3

Ether | 4

USB Port1

USB Port2

RJ-45 ETHER

CLK GEN IMIC9870GTD (CK-Titan)

EEPROM (Password) (ROMINFO)

ICH3m

HL

PCI

SMBUS2

USB Port0

USB Port1

USB Port2

2

3

USB P0

USB P1

USB P2

Ether Kinnerth

4

RJ-45

10

Speaker (SWX-78)

Amp

TVOUT | 5

VGA | 6

Pallarel | 7

Serial | 8

PS/2 | 9

S-VIDEO OUT

VGA

Parallel DSUB-25

Serial DSUB-9

PS/2 Mini DIN-6 for KBD

To Multi Purpose Bay (for future use)

USB P3

Audio CODEC AD1881A

AC Link

11

Amp

Headphone

Ext-MIC

RJ-11

100-pin Port Replicator CONNECTOR

100-pin Port Replicator CONNECTOR

RS232C Driver/Receiver MAX3243

MS

MS Chipset

USB Port4

USB P4

IFX-159

MDC Connector

MDC AMBIT

CN

CN

CNX-140

LINE OUT | 10

LINE IN | 11

A/V OUT

Amp

LINE IN

To Port Replicator (for future use)

USB P5

LPC

Debug Port

HDD

44pin Header

Primary IDE

Super I/O SMSC LPC47N227

Int. KBD | CN

Touch Pad

L/R button Back Button | FPC

Serial

8 | 7

Parallel Dsub-25

JogDial | CN

SWX-79

SMBUS1

EC/KBC/ SPIC

HITACHI H8S/2149

SMBUS 0

ATF Sense FAN control ADM1030

CN

FAN

I/O Expander /SMBUS MUX O2MICRO OZ998

SMBUS0_1

SMBUS0_2

CN

Battery1

Power Supply (+3,5VALW/ Batt CHG)

1

PWS-16

MPB

IDE Device (CD-ROM/CD-RW/DVD) or 2nd Battery

MPB Connector

Secondary IDE

Batt Connector

SMBUS0_2

1

PWS-16

HL

FWH

Flash BIOS ROM 8 Mbit

9

PS/2

CN

LID_SW
POWER_LED
STANDBY_LED
BATT1_LED
BATT2_LED
HDD_LED

POWER_SW
MS_LED
NUM_LED
CAPS_LED
SCROLL_LED
SPEAKER

LEX-31

SWX-78

EXTERNAL MICROPHONE
HEADPHONE

PHONE USB   USB USB NETWORK   PRINTER   DC-IN   AV OUT   MONITOR

Rear Panel

HARNESS (2P)

1 2 CN5002

CN5001

**CNX-140 Board
(Side-B)**

IEEE 1394 i.LINK

MODEM CARD

CN1301

CN1101 CN1703 CN1701   CN1111 CN1121   CN1501

PCGA-PRGR1
Port Replicator

CN1801

CN2801

LCD

INVERTER

LCD HARNESS

J9331   CN9301

40 39
CN9321

**VIF-17 Board
(Side-A)**

CN1141 1 7 / 2 8   1 11 / 2 12 CN2001   29 30 CN1601

29 30 J1   1 2

**MBX-55 Board
(Side-A)**

99 CN2901 100 / 2 2

CPU

MEMORY STICK

CN4502   7 / 8 CN4501

Side

**IFX-159 Board
(Side-A)**

PC CARD CONNECTOR

78 1 CN601 20

154 77 CN1202

CN2602 18 17   16 / 2

29 30 CN3001 17 / 2

CN101 2 1

CN1901 24 / 1

DC FAN

NICKEL HYDROGEN BATTERY

FFC

18 1 CN8102

SPEAKER

CN6002 1 4   CN6001 1 2

FFC

**SWX-78 Board
(Side-A)**

CN502 143 144

CN501 143 144

43 44 CN2201

HARD DISK

**PWS-16 Board
(Side-B)**

RAM
OPTION

KEY BOARD

Combination DRIVE

CN7501 49 50   1 CN2003 10   CN2301 2 1

21 CN2601 1   22 / 2 2

11 CN2610 1 2

CN2002 1 / 2

CN7502 59 60

CNX-143 Board
(Side-A)

60 59

HARNESS (10P)

CN4001 1 10

**LEX-31 Board
(Side-A)**

RAM
PC133 SO-DIMM
256MB

FLEXIBLE PWB

TOUCH PAD

CN7001 10 1   12 1

JOG DIAL

2nd BATTERY PACK (OPTION)

CN8121

CN8111

BATTERY PACK

22 CN8101

**SWX-79 Board
(Side-B)**

From board to connector (direct connection)
Harness (connector at both end)
Harness (soldered at one end)
Connectors soldered on board and appearing on the panel

Confidential

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- When two or more parts are shown in parallel, use the part described first as the main part.

> The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
>
> Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

How to use properly the repair parts.

There are some parts that use the 2 types ; the [CH] parts or alternately the [JP] parts, in this series. Use the [CH] repair parts for the [CH] type product, vice versa.

The jack and connectors mounted on the board of this model can be repaired in the [JP] type only. And regarding the boards of [CH] type, the discrete parts on the boards cannot be replaced. However, some connectors can be replaced.
For details, refer to "5-3.Connector Section".

[Applicable models]
GR250/GR250K/GR250P Model

[How to identify the parts]

① Special Head Screw (M2X4) (Black)

② Door DIMM M

Serial No.

A-xxx-xxx-A (x)xxxxxxxxx

1 : Using [JP] type
6 : Using [CH] type
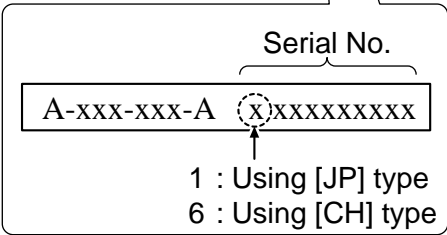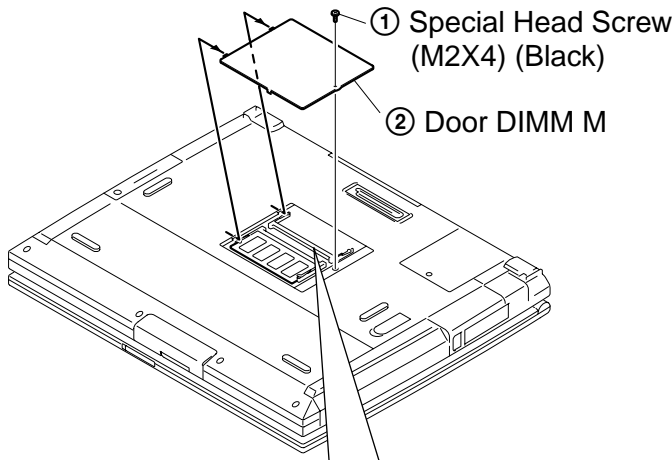
Identification seal is attached on the expansion memory connector.

[Repair part description example]

```
Ref.No.  Part No.      Description
- - - -  - - - -       - - - - - -

 999     A-8067-064-A  [CH]...MBX-55 ASSY (C) (S)
 999     4-8067-063-A  [JP]...MBX-55 ASSY (S)
```
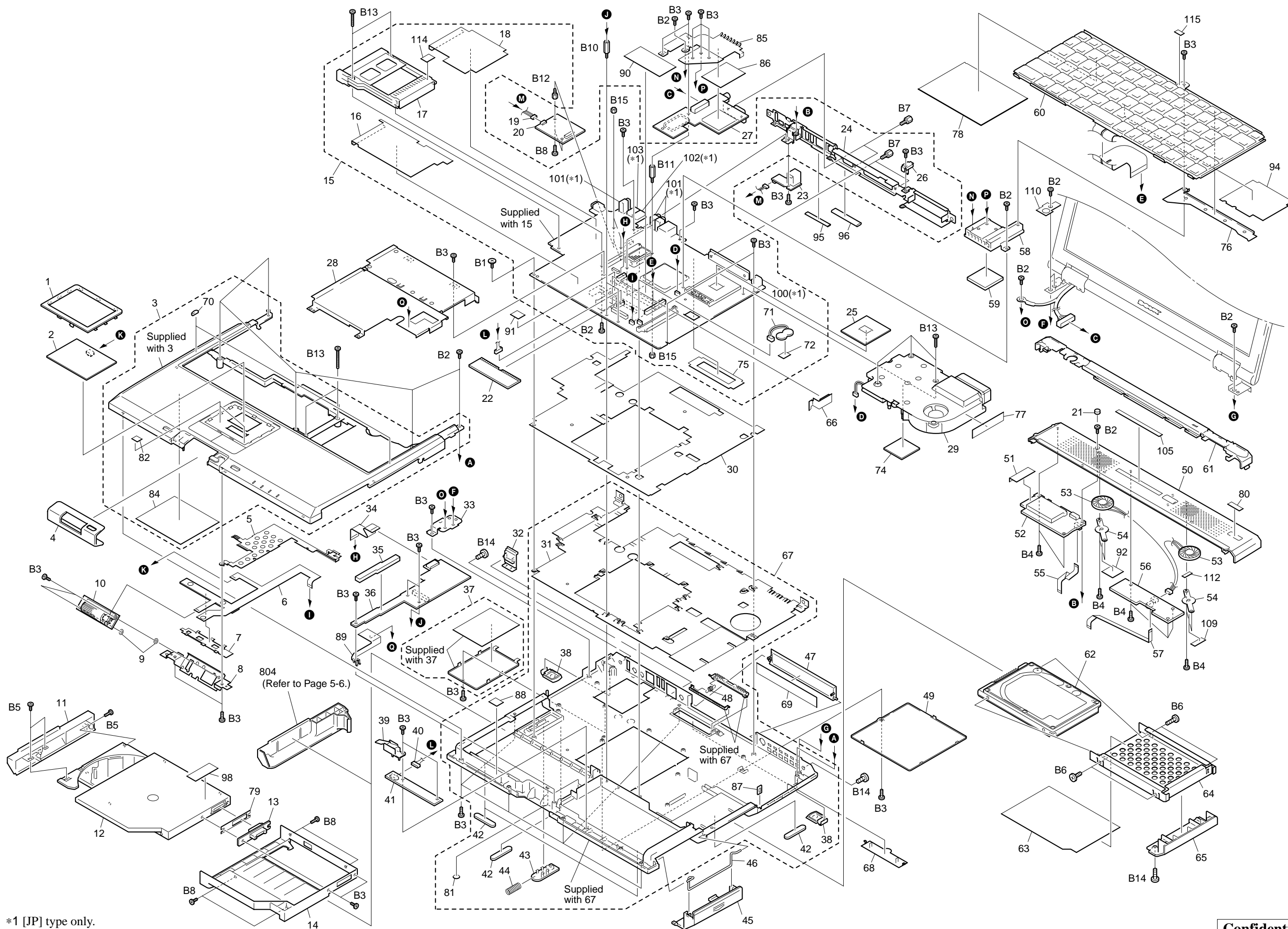
5-1. Main Section (GR250/GR250K/GR250P Model)

Ref.No.	Part No.	Description
1	4-653-760-01	ESCUSHION (TP)
2	1-796-166-11	PAD, TOUCH
3	X-4623-630-4	ASSY PALMREST
4	4-653-746-01	ESCUSHION (JOG)
* 5	4-653-796-11	PLATE GND
6	1-761-425-11	PWB, FLEXIBLE
* 7	4-653-795-11	BUTTON HOLDER
* 8	4-653-756-12	BRACKET (JOG)
9	4-657-720-01	JOG RINGSHEET
10	A-8067-067-A	[CH]...SWX-79 ASSY (C) (S)
10	A-8066-988-A	[JP]...COMPLETE PWB SWX-79
11	X-4623-764-1	ASSY CD BAY BEZEL KME
12	1-796-072-21	COMBO DRIVE (UJDA710)
13	A-8025-707-A	[CH]...BOARD ASSY 143 (C)
13	A-8066-997-A	[JP]...COMPLETE PWB CNX-143
14	4-653-767-02	BAY CASE
15	A-8067-064-A	[CH]...MBX-55 ASSY (C) (S)
15	A-8067-063-A	[JP]...MBX-55 ASSY (S)
16	4-654-621-01	SHEET DRIVE
17	1-815-594-11	CONNECTOR, PC CARD (EJECT,RIGHT)
18	4-655-960-01	SHEET PC CARD
19	1-960-827-31	HARNESS (2 PIN)
20	1-761-380-23	CARD, MODEM
21	4-654-439-01	CUSHION (HOOD)
22	6-700-679-01	IC HYM72V32M636AT6-H (PC-133 256MB)
23	A-8067-065-A	[CH]...CNX-140 ASSY (C) (S)
23	A-8067-000-A	[JP]...COMPLETE PWB CNX-140
* 24	X-4623-760-1	[CH]...ASSY BRACKET IO
* 24	X-4623-881-3	[JP]...ASSY BRACKET IO
25	6-700-583-01	IC RH80530GZ001512 (PentiumIII 1000MHz)
* 26	4-654-119-11	PLATE (DC)
27	A-8067-069-A	[CH]...VIF-17 ASSY (C) (S)
27	A-8067-001-A	[JP]...COMPLETE PWB VIF-17A
28	X-4623-884-1	ASSY BRACKET BAY
* 29	1-763-715-11	FAN, DC (WITH HEAT SINK)
30	4-653-770-02	INSULATOR HEATSINK BOTTOM
* 31	4-653-727-13	HEATSINK BOTTOM
32	4-653-761-11	CAP ETHERNET
* 33	4-654-285-11	BRACKET 1394
34	1-823-101-11	CABLE, FLEXIBLE FLAT
35	4-654-952-01	CUSHION PWS
36	A-8067-070-A	[CH]...PWS-16 ASSY (C) (S)
36	A-8066-995-A	[JP]...COMPLETE PWB PWS-16
37	X-4623-631-1	ASSY DOOR MODEM
38	4-653-733-02	FOOT REAR
39	X-4623-779-1	ASSY LATCH DETECTOR
40	1-961-255-11	HARNESS (10P)
41	A-8067-068-A	[CH]...LEX-31 ASSY (C) (S)
41	A-8066-990-A	[JP]...COMPLETE PWB LEX-31
42	4-653-718-11	FOOT FRONT
43	4-653-731-02	LATCH BAY
44	4-653-745-01	SPRING BAY
45	4-653-793-03	DOOR BATTERY
46	4-653-794-01	DOOR BATTERY SPRING
47	4-653-726-02	DOOR IO
48	4-653-728-01	SPRING DOOR PORT
49	4-659-165-01	DOOR DIMM M
50	X-4623-629-2	ASSY HOOD KEYBORD
51	4-654-606-01	SHEET (MS)
52	A-8067-005-A	COMPLETE PWB IFX-159
53	1-529-878-21	SPEAKER (2.8CM)
54	4-653-753-12	SPEAKER HOLDER
55	1-823-099-11	CABLE, FLEXIBLE FLAT
56	A-8067-066-A	[CH]...SWX-78 ASSY (C) (S)
56	A-8066-986-A	[JP]...COMPLETE PWB SWX-78

Ref.No.	Part No.	Description
57	1-823-100-11	CABLE, FLEXIBLE FLAT
* 58	4-654-388-11	HEAT SINK (AL)
59	4-655-488-01	THERMAL SHEET AL
60	1-476-788-23	KEY BOARD UNIT (US)
61	4-653-766-02	DISPLAY BASE
62	A-8025-175-A	ASSY HDD 20GB (I,15) (S)
63	4-653-801-02	SHEET HDD
* 64	4-653-799-02	BRACKET HDD
65	4-653-800-03	DOOR HDD
66	4-655-681-03	SHEET DRIVE2
67	X-4623-627-3	ASSY BOTTOM
68	4-654-379-02	COVER PORT
69	4-654-523-01	LABEL IO
70	4-654-440-12	CUSHION (PALM)
71	1-756-038-11	BATTERY, NICKEL HYDROGEN
72	4-642-711-01	SHEET (BATTERY), ADHESIVE
74	4-654-350-01	SHEET (CPU), THERMAL
75	4-654-953-01	SHEET PORT
76	X-4624-045-1	ASSY BRACKET KEYBOARD
77	4-655-961-02	SHEET FAN CASE
78	X-4624-044-1	ASSY PLATE KEYBOARD
79	4-654-837-01	SHEET BAY BOARD
80	4-658-445-71	(GR250P)...LABEL (ID) (U)
80	4-658-445-81	(GR250K)...LABEL (ID) (U)
80	4-658-445-91	(GR250)...LABEL ID (U)
81	4-654-380-11	CAP BAY
82	4-657-284-01	ADHESIVE TAPE (PALM)
84	4-656-070-01	PLATE (PARM)
85	4-656-207-01	PLATE ATI
86	4-656-220-01	SHEET ATI
87	4-653-792-11	BRACKET LOCK
88	4-656-042-02	BLIND SHEET
89	4-656-960-01	PLATE EARTH
90	4-656-906-02	SHEET AL
91	4-656-925-02	SHEET R
92	4-657-577-01	SHEET SPEAKERHOLDER
94	4-657-784-02	PLATE KEYBOARD2
95	4-657-654-01	GASKET USB
96	4-657-655-01	GASKET VGA
98	4-657-855-01	LABEL COMBO DRIVE
100	1-779-745-41	[JP]...JACK, DC
101	1-785-842-11	[JP]...CONNECTOR, USB (VERTICAL TYPE)
102	1-793-162-11	[JP]...JACK, SMALL TYPE
103	1-695-514-21	[JP]...JACK (SMALL TYPE) 1P
105	4-654-442-01	SHEET, ICON
109	4-658-959-01	GASKET (SPEAKER)
110	4-659-198-01	HINGE GND
112	4-659-845-01	SHIELD TAPE (SPEAKER)
B1	4-654-387-01	SCREW (MBX)
B2	4-641-726-41	SCREW (M2), SPECIAL HEAD
B3	4-641-726-11	SCREW (M2), SPECIAL HEAD
B4	4-639-112-01	SCREW M2X4
B5	4-645-177-01	SCREW (M1.7X3.5)
B6	4-635-301-01	SCREW M3X4
B7	4-635-966-01	SCREW (HEX)
B8	4-656-703-01	SCREW M2
B10	4-654-386-01	SPACER (PWS)
B11	4-654-385-01	SPACER (VIF)
B12	4-651-989-01	SPACER (MBX)
B13	4-644-899-01	SCREW (M2), 0 NUMBER P3 KIND
B14	4-654-811-01	SCREW M3
B15	7-622-205-05	NUT M2 TYPE2

Confidential

*1 [JP] type only.

Confidential

PCG-GR250/GR250K/GR250P/GR270/GR270K/
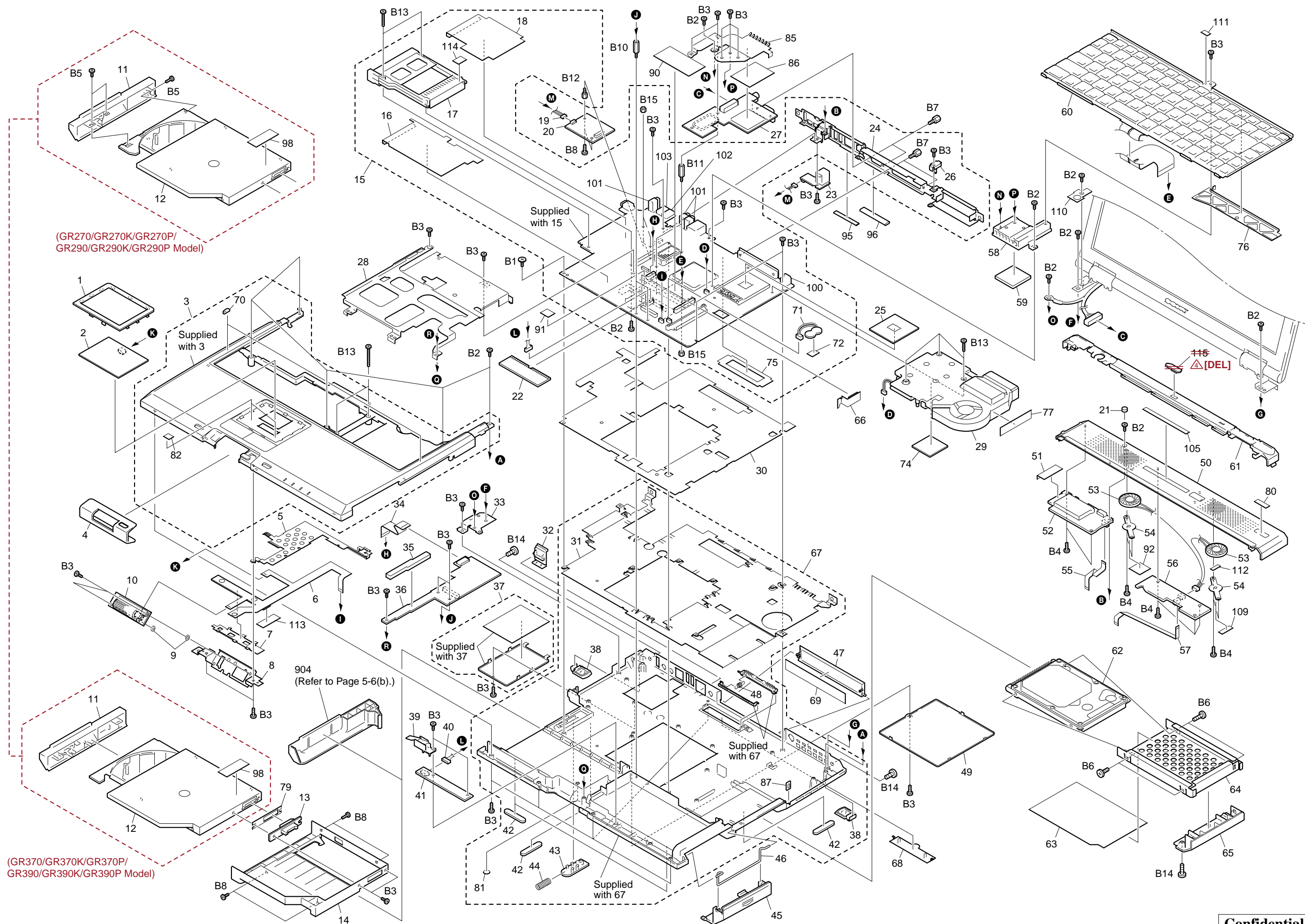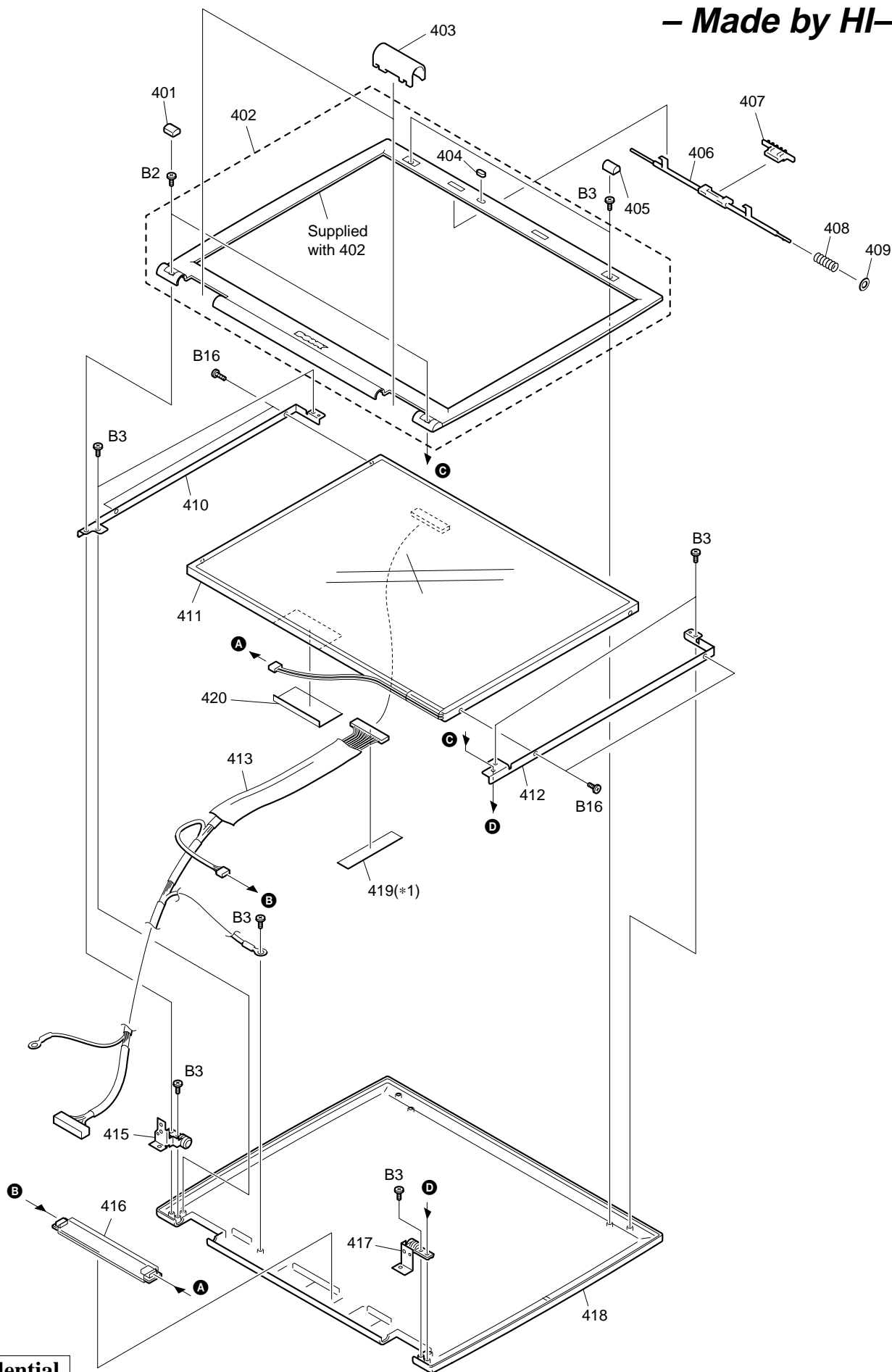PCG-/GR270P/GR290/GR290K/GR290P/GR370/
PCG-GR370K/GR370P/GR390/GR390K/GR390P (AM)

5-1-1. Main Section

(GR270/GR270K/GR270P/GR290/GR290K/GR290P/ GR370/GR370K/GR370P/GR390/GR390K/GR390P Model)

Ref.No.	Part No.	Description
1	4-653-760-01	ESCUSHION (TP)
2	1-796-166-11	PAD, TOUCH
3	X-4624-033-2	ASSY PALMREST 15
4	4-657-209-01	ESCUSHION (JOG) 15
5	4-657-221-02	PLATE GND 15
6	1-761-425-21	PWB, FLEXIBLE
* 7	4-653-795-11	BUTTON HOLDER
* 8	4-657-220-01	BRACKET (JOG) 15
9	4-657-720-01	JOG RINGSHEET
10	A-8066-988-A	COMPLETE PWB SWX-79
11	X-4624-170-1	(GR370/GR370K/GR370P/GR390/GR390K/ GR390P)...ASSY BEZEL BAY (HI)
11	X-4623-764-1	(GR270/GR270K/GR270P/GR290/GR290K/ GR290P)...ASSY CDBAY BEZEL KME
12	1-796-283-11	(GR370/GR370K/GR370P/GR390/GR390K/ GR390P)...COMBO DRIVE (GCC-4080N)
12	1-796-072-21	(GR270/GR270K/GR270P/GR290/GR290K/ GR290P)...COMBO DRIVE (UJDA710)
13	A-8066-997-A	COMPLETE PWB CNX-143
14	4-653-767-02	BAY CASE
15	A-8058-507-A	MBX-55 ASSY (S)
16	4-654-621-01	SHEET DRIVE
17	1-815-594-11	CONNECTOR, PC CARD (EJECT,RIGHT)
18	4-655-960-01	SHEET PC CARD
19	1-960-827-31	HARNESS (2 PIN)
20	1-761-380-23	CARD, MODEM
21	4-654-439-01	CUSHION (HOOD)
22	6-700-679-01	IC HYM72V32M636AT6-H (P3-133 256MB)
23	A-8067-000-A	COMPLETE PWB CNX-140
* 24	X-4624-050-1	ASSY BRACKET IO 15
25	6-700-582-01	(GR370/GR370K/GR370P)... IC RH80530GZ006512 (PentiumIII 1133MHz)
25	6-701-337-01	(GR290/GR290K/GR290P/GR390/GR390K/ GR390P)...IC RH80530GZ009512 (PentiumIII 1200MHz)
25	6-700-583-01	(GR270/GR270K/GR270P)... IC RH80530GZ001512 (PentiumIII 1000MHz)
* 26	4-654-119-11	PLATE (DC)
27	A-8067-001-A	COMPLETE PWB VIF-17A
28	X-4624-054-2	ASSY BRACKET BAY 15
* 29	1-763-715-21	FAN, DC (WITH HEAT SINK)
30	4-657-312-01	INSULATOR HEATSINK BOTTOM 15
* 31	4-657-217-02	HEATSINK BOTTOM 15
32	4-653-761-11	CAP ETHERNET
* 33	4-657-219-01	BRACKET 1394 (I.LINK) 15
34	1-823-101-11	CABLE, FLEXIBLE FLAT
35	4-654-952-01	CUSHION PWS
36	A-8066-995-A	COMPLETE PWB PWS-16
37	X-4623-631-1	ASSY DOOR MODEM
38	4-658-329-02	FOOT REAR 15
39	X-4623-779-1	ASSY LATCH DETECTOR
40	1-961-255-21	HARNESS (10P)
41	A-8066-990-A	COMPLETE PWB LEX-31
42	4-653-718-12	FOOT FRONT
43	4-653-731-02	LATCH BAY
44	4-653-745-01	SPRING BAY
45	4-657-208-01	DOOR BATTERY 15
46	4-657-218-01	DOOR BATTERY SPRING 15

Ref.No.	Part No.	Description
47	4-653-726-02	DOOR IO
48	4-653-728-01	SPRING DOOR PORT
49	4-659-165-01	DOOR DIMM M
50	X-4624-034-2	ASSY HOOD KEYBORD 15
51	4-654-606-01	SHEET (MS)
52	A-8067-005-A	COMPLETE PWB IFX-159
53	1-529-878-21	SPEAKER (2.8CM)
54	4-653-753-12	SPEAKER HOLDER
55	1-823-099-11	CABLE, FLEXIBLE FLAT
56	A-8066-986-A	COMPLETE PWB SWX-78
57	1-823-100-11	CABLE, FLEXIBLE FLAT
58	4-654-388-11	HEAT SINK (AL)
59	4-655-488-01	THERMAL SHEET AL
60	1-477-006-21	KEY BOARD UNIT (US)
61	4-657-207-01	DISPLAY BASE 15
62	A-8058-180-A	(GR290/GR290K/GR290P)... HDD 40GB (T20) (S)
62	A-8025-174-A	(GR270/GR270K/GR270P/GR370/GR370K/ GR370P/GR390/GR390K/GR390P)... ASSY HDD 30GB (I,15) (S)
63	4-653-801-02	SHEET HDD
* 64	4-653-799-02	BRACKET HDD
65	4-657-212-01	DOOR HDD 15
66	4-655-681-03	SHEET DRIVE2
67	X-4624-032-2	ASSY BOTTOM 15
68	4-654-379-02	COVER PORT
69	4-654-523-01	LABEL I/O
70	4-657-245-01	CUSHION (PALM) 15
71	1-756-038-11	BATTERY, NICKEL HYDROGEN
72	4-642-711-01	SHEET (BATTERY), ADHESIVE
74	4-650-350-01	SHEET (CPU), THERMAL
75	4-654-953-01	SHEET PORT
76	X-4624-267-1	ASSY BRACKET KEYBOARD 15
77	4-655-961-02	SHEET FAN CASE
79	4-654-837-01	SHEET BAY BOARD
80	4-660-797-11	(GR390P)...LABEL ID (U)
80	4-660-797-21	(GR390K)...LABEL ID (U)
80	4-660-797-31	(GR390)...LABEL ID (U)
80	4-660-797-41	(GR370P)...LABEL ID (U)
80	4-660-797-51	(GR370K)...LABEL ID (U)
80	4-660-797-61	(GR370)...LABEL ID (U)
80	4-658-445-11	(GR290P)...LABEL ID (U)
80	4-658-445-21	(GR290K)...LABEL ID (U)
80	4-658-445-31	(GR290)...LABEL ID (U)
80	4-658-445-41	(GR270P)...LABEL ID (U)
80	4-658-445-51	(GR270K)...LABEL ID (U)
80	4-658-445-61	(GR270)...LABEL ID (U)
81	4-654-380-11	CAP BAY
82	4-657-284-01	ADHESIVE TAPE (PALM)
85	4-656-207-01	PLATE ATI
86	4-656-220-01	SHEET ATI
87	4-653-792-11	BRACKET LOCK
88	4-657-247-01	BLIND SHEET 15
90	4-656-906-02	SHEET AL
91	4-656-925-02	SHEET R
92	4-657-577-01	SHEET SPEAKERHOLDER
95	4-657-654-01	GASKET USB
96	4-657-655-01	GASKET VGA
98	4-657-855-01	LABEL COMBO DRIVE

⚠ [COR] 4-654-350-01

Ref.No.	Part No.	Description
100	1-779-745-41	JACK, DC
101	1-785-842-11	CONNECTOR, USB (VERTICAL TYPE)
102	1-793-162-11	JACK, SMALL TYPE
103	1-695-514-21	JACK (SMALL TYPE) 1P
105	4-654-442-11	SHEET, ICON
109	4-658-959-01	GASKET (SPEAKER)
110	4-659-198-01	HINGE GND
111	4-659-393-01	GASKET (KEYBOARD15)
112	4-659-845-01	SHIELD TAPE (SPEAKER)
113	4-659-344-01	SHIELD TAPE (PAD)
114	4-658-961-01	SHEET (KEYBOARD15)
⚠ [DEL] 115	4-659-686-01	(GR370/GR370K/GR370P/GR390/GR390K/ GR390P)...CUSHION (D/B)

Ref.No.	Part No.	Description
B1	4-654-387-01	SCREW (MBX)
B2	4-641-726-41	SCREW (M2), SPECIAL HEAD
B3	4-641-726-11	SCREW (M2), SPECIAL HEAD
B4	4-639-112-01	SCREW M2X4
B5	4-645-177-01	SCREW (M1.7X3.5)
B6	4-635-301-01	SCREW M3X4
B7	4-635-966-01	SCREW (HEX)
B8	4-656-703-01	SCREW M2
B10	4-654-386-01	SPACER (PWS)
B11	4-654-385-01	SPACER (VIF)
B12	4-651-989-01	SPACER (MBX)
B13	4-644-899-01	SCREW (M2), 0 NUMBER P3 KIND
B14	4-654-811-01	SCREW M3
B15	7-622-205-05	NUT M2 TYPE2

5-2. LCD Section (GR250/GR250K/GR250P Model)

– Made by HI–

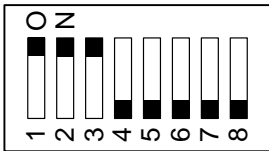| Ref.No.	Part No.	Description
401	4-653-722-01	COVER SCREW LOWER
402	X-4623-636-1	ASSY BEZEL 14
403	4-653-754-01	COVER HINGE
404	4-654-794-01	CUSHION LATCH
405	4-653-723-01	COVER SCREW UPPER
406	4-653-730-01	HOOK DISPLAY
407	4-653-738-01	LATCH DISPLAY
408	4-637-903-01	SPRING LATCH
409	4-656-034-01	WASHER LATCH
* 410	4-653-735-01	BRACKET LCD L (SA)
411	A-8058-184-A	LCD 14XGA-H (S)
* 412	4-653-736-01	BRACKET LCD R (SA)
413	1-961-256-11	HARNESS, LCD
415	X-4623-633-1	HINGE LEFT
416	1-476-735-11	INVERTER UNIT
417	X-4623-634-1	HINGE RIGHT
418	X-4623-635-1	ASSY DISPLAY
419	————	FILAMENT TAPE (W19X50) (*1)
420	4-659-643-01	SHEET LCD (14HI)
B2	4-641-726-41	SCREW (M2), SPECIAL HEAD
B3	4-641-726-11	SCREW (M2), SPECIAL HEAD
B16	4-641-726-81	SCREW (M2), SPECIAL HEAD

*1 Use the FILAMENT TAPE.
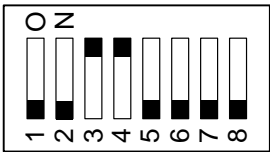
Ref.No.	Part No.	Description
		ACCESSORIES
		************
⚠800	1-476-161-21	ADAPTOR, AC
801	1-756-198-21	BATTERY, LITHIUM ION (PCGA-BP2E)
⚠802	1-757-562-21	CORD, POWER
804	4-653-768-01	WEIGHT SAVER (Refer to page 5-3.)
	4-658-965-11	QUICK START, GR200 (K) SERIES

800
AC Adaptor (1)
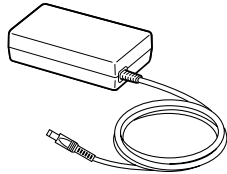
802
Power Cord (1)
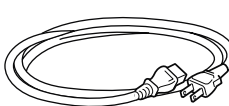
801
Battery Pack (1)

804
Weight Saver (1)

NOTE :
Set the DIP switch on the MBX-55 board (Main board) to match with the LCD that is used in this computer.

The upper position where ON indication is shown is the ON position . The lower position is the OFF position.

No.	1	2	3	4	5	6	7	8
ON/OFF	1	1	0	0	0	1	1	1

0 : ON   1 : OFF

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

5-2-1. LCD Section

(GR270/GR270K/GR270P/GR290/GR290K/GR290P/ GR370/GR370K/GR370P/GR390/GR390K/GR390P Model)
– Made by LG, NE, SH–

GR270/GR270K/GR270P/
GR370/GR370K/GR370P
Model

GR290/GR290K/GR290P
GR390/GR390K/GR390P
Model
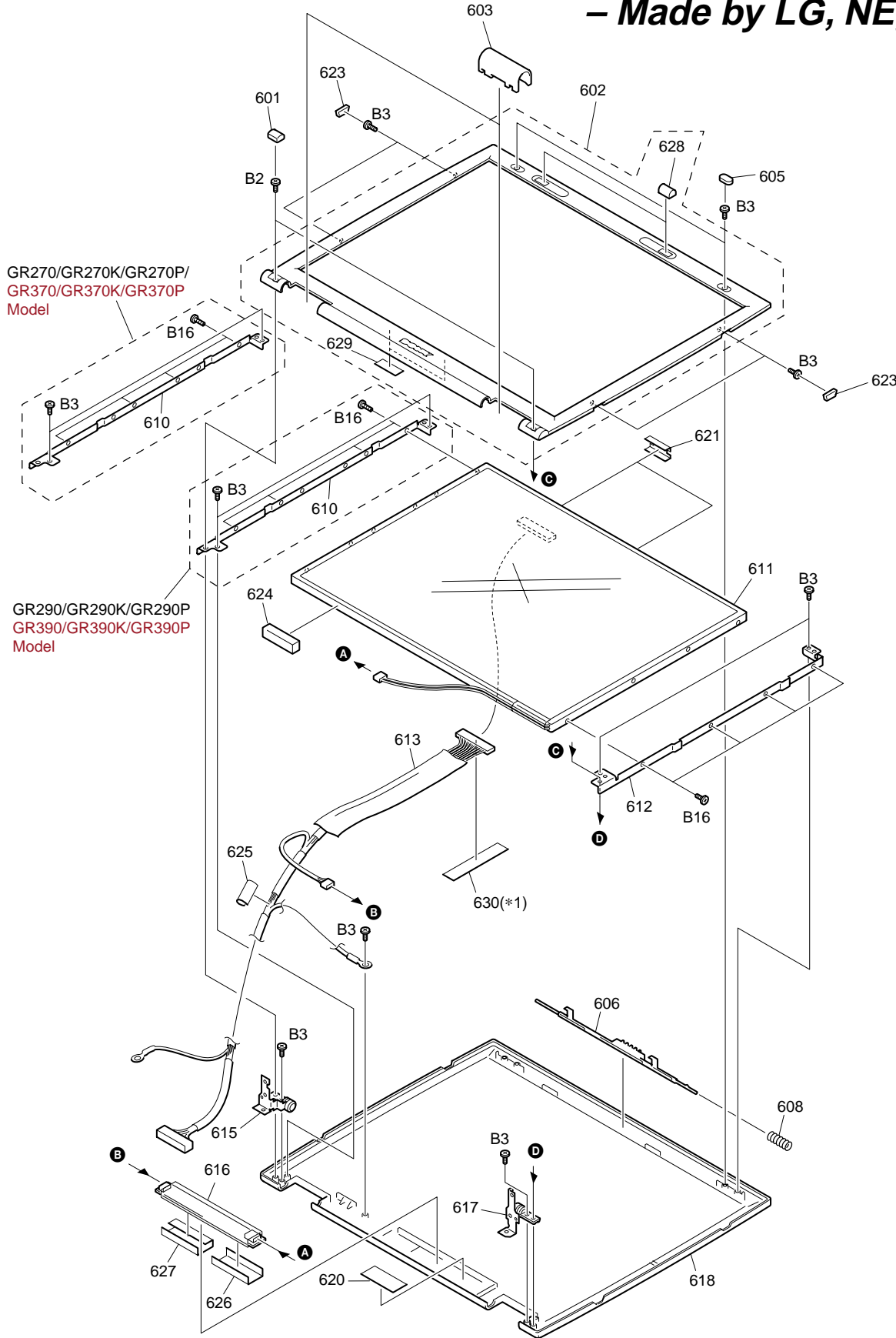
Ref.No.	Part No.	Description
601	4-653-722-02	COVER SCREW LOWER
602	X-4624-036-2	ASSY BEZEL 15
603	4-657-206-02	COVER HINGE 15
605	4-657-244-01	COVER SCREW UPPER 15
606	4-657-215-02	LATCH LEVER 15
608	4-639-623-11	SPRING (LATCH), COIL
* 610	4-657-223-02	BRACKET LCD L 15
611	A-8058-187-A	(GR290/GR290K/GR290P/GR390/GR390K/ GR390P)...LCD 15SXGA-S (S)
611	A-8058-188-A	(GR270/GR270K/GR270P/GR370/GR370K/ GR370P)...LCD 15XGA-LG (S) (LG)
611	A-8059-572-A	(GR370/GR370K/GR370P)... LCD 15XGA-NE (S) (NE)
* 612	4-657-224-02	BRACKET LCD R 15
613	1-961-254-21	(GR290/GR290K/GR290P/GR390/GR390K/ GR390P)...HARNESS, LCD
613	1-961-256-21	(GR270/GR270K/GR270P)...HARNESS, LCD
613	1-961-256-21	(GR370/GR370K/GR370P)...HARNESS, LCD
615	X-4624-037-2	HINGE LEFT 15
616	1-476-975-11	INVERTER UNIT
617	X-4624-038-2	HINGE RIGHT 15
618	X-4624-035-2	ASSY DISPLAY 15
620	4-657-250-01	CUSHION INV 15
621	4-658-581-02	~~BRAIND LCD 15~~ ⚠ [COR] BLAND LCD 15
623	4-657-246-01	COVER SCREW SIDE 15
624	4-660-242-01	GASKET (LCD 15)
625	4-660-245-01	SHIELD (HARNESS)
626	4-660-278-01	SHIELD (INV) BU
627	4-660-277-01	SHIELD (INV) CU
628	4-653-723-01	COVER SCREW UPPER
629	4-654-966-01	(GR370/GR370K/GR370P)... SHEET (BEZEL), ADHESIVE (LG) (GR270/GR270K/GR270P/GR290/GR290K/ GR290P/GR390/GR390K/GR390P)... SHEET (BEZEL), ADHESIVE
630	———	FILAMENT TAPE (W19X50) (*1)
B2	4-641-726-41	SCREW (M2), SPECIAL HEAD
B3	4-641-726-11	SCREW (M2), SPECIAL HEAD
B16	4-641-726-81	SCREW (M2), SPECIAL HEAD

*1 Use the FILAMENT TAPE.

Ref.No.	Part No.	Description
		ACCESSORIES ***********
700	1-476-161-21	(GR270/GR270K/GR270P/GR290/GR290K/ GR290P)...ADAPTOR, AC
⚠700	1-476-161-31	(GR370/GR370K/GR370P/GR390/GR390K/ GR390P)...ADAPTOR, AC
701	1-756-198-21	BATTERY, LITHIUM ION (PCGA-BP2E)
⚠702	1-757-562-21	CORD, POWER
704	4-653-768-02	WEIGHT SAVER (Refer to page 5-4(b).)
705	1-781-135-11	FILTER, CLAMP (FERRITE CORE)
	4-658-965-11	(GR270/GR270K/GR270P/GR290/GR290K/ GR290P)...QUICK START, GR200 (K) SERIES
	4-661-998-11	(GR370/GR370K/GR370P/GR390/GR390K/ GR390P)...QUICK START, ARIES 2

700
AC Adaptor (1)
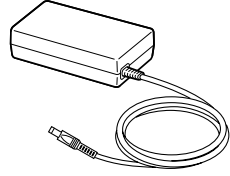
704
Weight Saver (1)
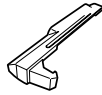
701
Battery Pack (1)

705
Clamp Filter
(Ferrite core)

702
Power Cord (1)

NOTE :
"(LG)" means using [LCD made by LG] in the GR270/GR270K/GR270P/GR370/GR370K/GR370P Models.
"(NE)" means using [LCD made by NE] in the GR370/GR370K/GR370P Models.
"(SH)" means using [LCD made by SH] in the GR290/GR290K/GR290P/GR390/GR390K/GR390P Models.
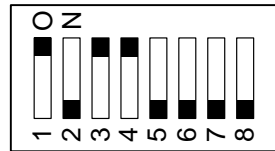
NOTE :
Set the DIP switch on the MBX-55 board (Main board) to match with the LCD that is used in this computer.
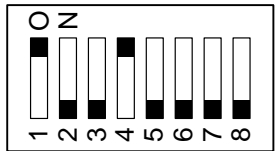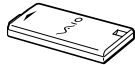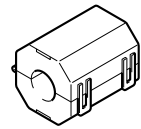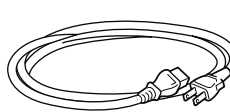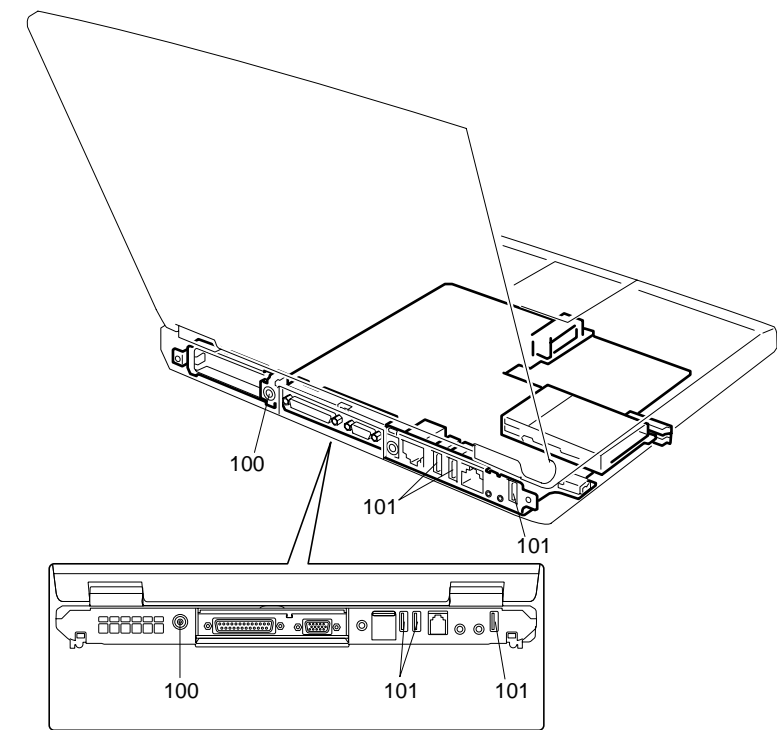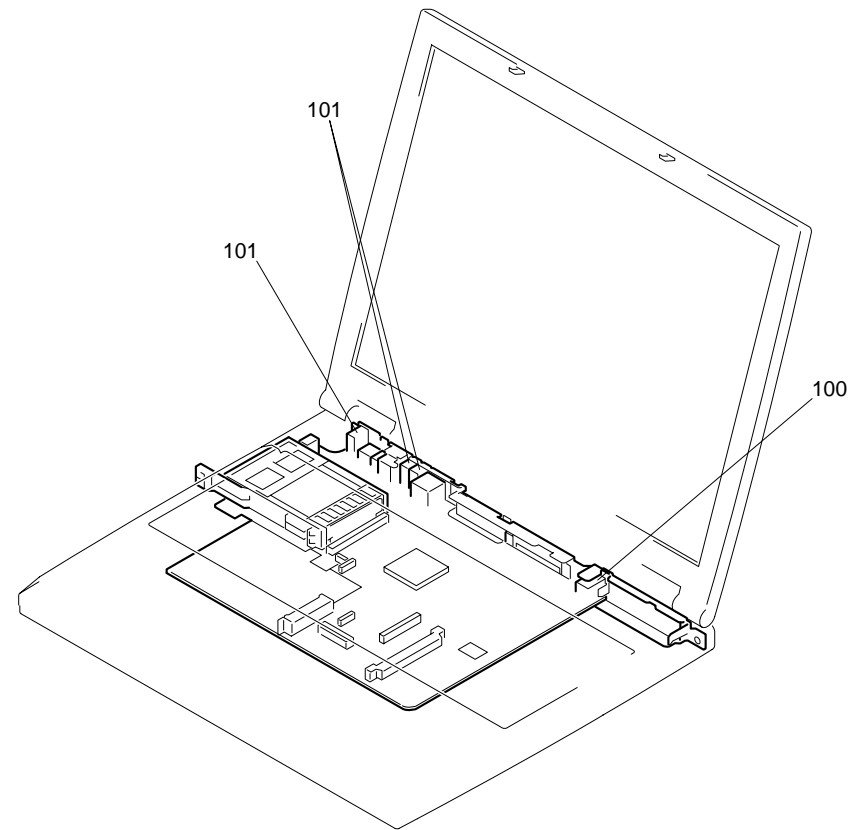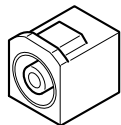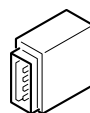
GR270/GR270K/GR270P
GR370/GR370K/GR370P (LG)

GR370/GR370K/GR370P (NE)

GR290/GR290K/GR290P
GR390/GR390K/GR390P (SH)

The upper position where ON indication is shown is the ON position .
The lower position is the OFF position.

GR270/GR270K/GR270P
GR370/GR370K/GR370P (LG)

No.	1	2	3	4	5	6	7	8
ON/OFF	0	0	0	1	1	1	1	1

0 : ON   1: OFF

GR370/GR370K/GR370P (NE)

No.	1	2	3	4	5	6	7	8
ON/OFF	0	1	0	0	1	1	1	1

0 : ON   1: OFF

GR290/GR290K/GR290P
GR390/GR390K/GR390P (SH)

No.	1	2	3	4	5	6	7	8
ON/OFF	0	1	1	0	1	1	1	1

0 : ON   1: OFF

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5-3. Connector Section (CH Type Only)

Ref.No.	Fig.	Part No.	Description
100		1-779-745-41	[CH]...JACK, DC DC IN connector
101		1-785-842-11	[CH]...CONNECTOR, USB (VERTICAL TYPE) USB connector

∗ Among the parts that are used on the boards of this model, only the connectors that are show in the list can be replaced.
(The parts other that the specified connectors cannot be replaced.)

VAIO

PCG-GR250/GR250K/GR250P/GR270/GR270K/GR270P/GR290/GR290K/
PCG-GR290P/GR370/GR370K/GR370P/GR390/GR390K/GR390P (AM)

List of PCG-GR Series (As of October, 2002)

Model Name	Service Manual Part No.
PCG-GR150 PCG-GR150K PCG-GR170 PCG-GR170K	9-874-418-11
PCG-GR250 PCG-GR250K PCG-GR250P PCG-GR270 PCG-GR270K PCG-GR270P PCG-GR290 PCG-GR290K PCG-GR290P PCG-GR370 PCG-GR370K PCG-GR370P PCG-GR390 PCG-GR390K PCG-GR390P	9-874-465-06 ⌐

⌐ : Additional Models

Revision History

Suffix	Ver.	Date	Contents	QM No.
-01	Ver. 1	2001.10.15	First Edition	
-02	Ver. 2	2001.10.26	**Front Page (Model Line Up), Page1-16** **Page5-1 (Applicable models described)** **Page5-4(a), Page5-4(b), Page5-4(c), Page5-6(a), Page5-6(b) (Part list, Exploded view added)**	M2001_082K
-03	Ver. 3	2002.01.21	**Front Page (Model Line Up), Page1-16** **Page5-4(d), Page5-4(e), Page5-4(f), Page5-6(c), Page5-6(d) (Part list, Exploded view added)**	N2002_002K
-04	Ver. 4	2002.02.12	**Front Page (Model Line Up), Page1-16** **Page5-4(a), Page5-4(b), Page5-4(c), Page5-6(a), Page5-6(b), Back Cover**	N2002_009K
-05	Ver.5	2002.08.19	△4 **Page 5-4(a), Page 5-4(b), Page 5-4(c), Page 5-6(b)**	N2002_091K
-06	Ver. 6	2002.09.26	△5 **Page 5-4(a)**	N2002_117CK

< Remarks >

2001.12.08   Change of Service Manual P/N [9-872-265-02 ⇨ 9-874-465-02]